

Y G345/4.13/6 1966

JUL 22 1966

Publications on Pennsylvania Geology

PENNSYLVANIA STATE LIBRARY
DOCUMENTS SECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF INTERNAL AFFAIRS
Genevieve Blatt, Secretary
BUREAU OF
TOPOGRAPHIC AND GEOLOGIC SURVEY
Arthur A. Socolow, State Geologist

1966

PENNSYLVANIA STATE LIBRARY
DOCUMENTS SECTION

TABLE OF CONTENTS

	Page
HOW TO OBTAIN TOPOGRAPHIC MAPS	2
HOW TO ORDER PUBLICATIONS	3
THE GEOLOGICAL SURVEYS OF PENNSYLVANIA	4
SOURCE OF OUT-OF PRINT REPORTS	4
INDEX TO PUBLICATIONS ON PENNSYLVANIA	5
County index	5
Commodity index	9
INDEX MAP	16
LIST OF PUBLICATIONS	13
Pennsylvania Geological Survey, fourth series	
Atlas Series	13
County Reports	14
Educational Series	14
General Geology Reports	14
Mineral Resource Reports	18
Ground Water Resource Reports	20
Special Bulletins	20
Progress Reports	21
Information Circulars	23
Well-sample Records	24
Maps	24
Pennsylvania Third (Commission) Survey	
Selected Publications	25
Pennsylvania Department of Internal Affairs	
Selected Publications	25
U. S. Geological Survey	
Folios	26
Geologic Quadrangle Reports	26
Coal Investigations—Maps	27
Oil and Gas Investigations	
Preliminary Maps	27
Preliminary Charts	27
Circulars	27
Bulletins	28
Professional Papers	29
Water Supply Papers	30
Hydrologic Investigations Atlas	30
Geophysical Investigations	30
Miscellaneous Publications	32
U. S. Bureau of Mines	
Reports of Investigations	32
Technical Papers	33
Bulletins	33
Minerals Yearbook	34

PUBLICATIONS
ON THE
GEOLOGY OF PENNSYLVANIA

ISSUED BY

Pennsylvania Department of Internal Affairs
Bureau of Topographic and Geologic Survey

United States Geological Survey
United States Bureau of Mines

1966

This list is being sent in response to your request of

To find the numbers of the reports covering the topic in which you are interested, refer to the index listing of reports in the front of this pamphlet. Publications are indexed by county or by commodity. Before ordering a publication, refer to the list of publications following the index to find the title, description, and price of the item in which you are interested, and whether or not the publication is in print.

In ordering publications or maps, please follow the instructions on pages 2 and 3 to avoid needless delay in processing your order.

Should you desire additional information, the Topographic and Geologic Survey will be glad to assist you in any manner.

Very truly yours,

Genevieve Blatt
Secretary of Internal Affairs

Aruthur A. Socolow
State Geologist

HOW TO OBTAIN TOPOGRAPHIC MAPS OF PENNSYLVANIA

Topographic maps of Pennsylvania are prepared by the United States Geological Survey in cooperation with the Bureau of Topographic and Geologic Survey. Persons wishing to know the names and scales of topographic maps which are available for Pennsylvania may obtain an **Index to Topographic Mapping in Pennsylvania** free on request from either:

Pennsylvania Geological Survey
Department of Internal Affairs
Harrisburg, Pa. 17120

Or Map Information Service
U. S. Geological Survey
Washington, D. C. 20242

Topographic maps may be purchased from the U. S. Geological Survey by addressing the request to:

Washington Distribution Center
Geological Survey
1200 S. Eads Street
Arlington, Va. 22202

On such orders, customers should state the name of the map as well as the type of map desired and are urged to use order blanks supplied with the Index to Topographic Mapping in Pennsylvania mentioned above. Orders must be accompanied by cash, check, or money order in the exact amount. Stamps will not be accepted as payment.

At slightly higher costs, maps may be purchased across the counter at the agents in Pennsylvania listed below:

ALLENTOWN
Nestor Sporting Goods

BETHLEHEM
H. M. Paul & Son

BRADFORD
Francis J. Talerico

HANOVER
J. W. Fischer & Co.

HARRISBURG
Potts Drug Store

HAWLEY
J. Vance Hunt & Son

HAZLETON
Deemer & Co.

JACOBUS
Straley's

JOHNSTOWN
Sterling Office & School Supply

LANCASTER
L. B. Herr & Son

LEWISTOWN
Aurand's

MEADVILLE
Hunter's News

MILFORD
Sportmen's Rendezvous

MILLHEIM
Mensch's Jewelry and Sporting
Goods

MORRIS
Cameron's Store

PHILADELPHIA
J. L. Smith Co.

PITTSBURGH
Pen-O-Wes Map Co.
J. R. Weldin Co.

READING
William G. Hintz, Inc.

SAINT MARYS
Smith Sport Store

SAYLORSBURG
Pocono Blueprint Service

SCRANTON
Deemer & Co.

WILKES-BARRE
Deemer & Co.

WILLIAMSPORT
Plankenhorn Stationary Co.

IMPORTANT! READ INSTRUCTIONS BELOW BEFORE ORDERING

HOW TO ORDER PUBLICATIONS

PENNSYLVANIA GEOLOGICAL SURVEY

Publications of the Pennsylvania Geological Survey are obtained from two places: If the publication is **free**, write to:

Pennsylvania Geological Survey
Department of Internal Affairs
Harrisburg, Pa. 17120

If there is a **charge** for the publication, it can be obtained **only** from:

Capitol Book Store
54 Main Capitol Bldg.
Harrisburg, Pa. 17125

Enclose the cost of the publication with the order **plus 5% State Sales Tax if the publication is to be mailed to a Pennsylvania address**. The sales tax is computed as follows: Less than 10c, no tax; 11c to 20c, 1c; 21c to 40c, 2c; 41c to 60c, 3c; 61c to 80c, 4c; 81c to \$1.00, 5c. For tax over \$1.00 add 5c for each dollar plus an amount as indicated by the preceding schedule for portions over an even dollar.

Send cash, money order, or check payable to the **Commonwealth of Pennsylvania**. Stamps will not be accepted as payment.

U. S. GEOLOGICAL SURVEY and U. S. BUREAU OF MINES

Requests should be sent to the addresses below with payment in the form of cash, check, or money order. Order as follows:

Folios, maps and charts at the indicated cost from

U. S. Geological Survey
1200 S. Eads Street
Arlington, Va. 22202

Reports of Investigations free from

U. S. Bureau of Mines
4800 Forbes Avenue
Pittsburgh, Pa. 15213

All other reports at the indicated cost from

Superintendent of Documents
U. S. Government Printing Office
Washington, D. C. 20402

IMPORTANT ! READ INSTRUCTIONS ABOVE BEFORE ORDERING

THE GEOLOGICAL SURVEYS OF PENNSYLVANIA

There have been four geological surveys of Pennsylvania and four resulting series of publications:

First Survey, 1836-1854; Publications—6 annual reports, 2 quarto-volumes, and a state geologic map.

Second Survey, 1874-1887; Publications—81 volumes, 35 atlases, and a grand atlas.

Third (Commission) Survey, 1899-1919; Publications—6 biennial reports and 12 economic reports listed in this pamphlet.

Fourth Survey, 1919—: Publications listed in this pamphlet (fourth series).

All reports of the first three geological surveys and some of the reports of the present (fourth) survey are out-of-print. These reports are available for consultation in many libraries.

SOURCES OF OUT-OF-PRINT REPORTS

The library of the Pennsylvania Geological Survey in Harrisburg is open for public use and contains all previous Pennsylvania Survey reports, as well as most of the U. S. Geological Survey, U. S. Bureau of Mines, and other governmental and institutional reports.

Many reports appearing in this list of publications are marked with an asterisk (*) indicating that they are out-of-print and no longer available for distribution.

Out-of-print reports are available for study in many libraries throughout the state, particularly those in larger cities and at colleges.

For the convenience of persons wishing to obtain copies of out-of-print reports of the Pennsylvania Geological Survey and the U. S. Geological Survey, listed below are a number of book dealers known to stock such reports.

Boston, Mass. 02115	J. S. Cannon & Co.	909 Boylston St.
Cincinnati, Ohio 45202	Ohio Book Store	544 Main St.
Los Angeles, Cal. 90037	John Q. Burch	1584 Vernon Av.
New York 10003	Henry George Fiedler	31 E. 10th St.
	Stechert-Hafner, Inc.	31 E. 10th St.
	Henry Tripp	31 E. 10th St.
New York 10010	Alfred Jaeger, Inc.	115 E. 23rd St.
Lakeville, Conn. 06039	William Trussell	Box 512
Philadelphia, Pa. 19107	Leary, Stuart Co.	9 S. 9th St.
Philadelphia, Pa. 19106	G. H. Arrow	218 S. 4th St.
Schenectady, N. Y. 12305	James C. Howgate	128 S. Church St.
Washington, D. C. 20004	W. H. Loudermilk	1418 F St. NW
Seattle, Wash. 98104	Shorey Book Store	813 Third St.

INDEX TO PUBLICATIONS ON PENNSYLVANIA

This Index is designed to help you find the publications in which you are interested. When you have found the numbers of the publications, refer these numbers to the actual list of publications to find the title of the publication. The title will help you decide if the publication will contain the specific type of information you desire. DO NOT ORDER publications from this Index, but order from the List by both number and title.

Much additional information on Pennsylvania Geology is available in publications not covered by this list. The reader is referred to Pa. Geological Survey Bulletins G-34 and G-42 for a complete list of all articles on Pennsylvania Geology written before 1959.

Abbreviations used in this Key are as follows:

Pennsylvania 3rd (Commission) Survey—Pa. Geol. Survey (3rd)
 Pennsylvania Geological Survey, 4th series—Pa. Geol. Survey (4th)

A _____ Atlas Series
 C _____ County Reports
 IC _____ Information Circular
 ES _____ Educational Series
 G _____ General Geology Reports
 M _____ Mineral Resource Reports
 PR _____ Progress Reports
 SB _____ Special Bulletins
 W _____ Water Resource Reports
 WSR _____ Well Sample Records
 Map _____ Map Series

United States Geological Survey—U. S. Geol. Survey

B _____ Bulletins
 Cir _____ Circular
 CI _____ Coal Investigations
 F _____ Folios
 GP _____ Geophysical Investigations
 GQ _____ Geologic Quadrangle Maps
 HA _____ Hydrologic Investigations Atlas
 PP _____ Professional Paper
 WS _____ Water Supply Papers

United States Bureau of Mines—U. S. Bur. Mines

B _____ Bulletin
 R _____ Report of Investigations
 TP _____ Technical Paper

COUNTY INDEX

ADAMS

Pa. Geol. Survey (3rd): 4, 8, 11
 Pa. Geol. Survey (4th): C1; G33, 43; M11, 15, 16, 20, 23, 50, 51; W2, 21; PR169; IC4
 U. S. Geol. Survey: F225; GQ28; PP204; GP276, 277, 278, 280, 281, 283, 284, 285

ALLEGHENY

Pa. Geol. Survey (3rd): 1, 8, 11
 Pa. Geol. Survey (4th): A27, 36, 37; G7, 17, 33, 39; M2, 4, 6, 11, 15, 17, 19, 20, 29, 31, 32, 45, 48, 51; W1, 8, 10; SB1; PR148; IC4, 16
 U. S. Geol. Survey: B456, 659, 829; F94, 134, 176, 177, Cir 315
 U. S. Bur. Mines: R5003, 5455, 5492

ARMSTRONG

Pa. Geol. Survey (3rd): 4, 8, 11
 Pa. Geol. Survey (4th): A36, 55; G3, 33, 39; M2, 4, 6, 10, 11, 15, 17, 19, 20, 31, 32, 39, 45, 50, 51; PR143, 148, 155, 157; IC4, 16
 U. S. Geol. Survey: B256, 279, 454, 659; F115, 123, 125; WS110
 U. S. Bur. Mines: R4788, 4801, 5101

BEAVER

Pa. Geol. Survey (3rd): 1, 8, 11
 Pa. Geol. Survey (4th): A5; G7, 32; M2, 4, 6, 15, 17, 20, 31, 32, 50; W3, 9; PR148; IC4, 16
 U. S. Geol. Survey: B286, 659, 873, 1143A; F176

BEDFORD

Pa. Geol. Survey (3rd): 8, 10, 11, 12
 Pa. Geol. Survey (4th): G3, 38, 39; M4, 6, 15, 20, 23, 27, 38, 39, 45; W5; PR143, 151, 154, 157, 170, 174; IC16, 44, 45; WSR56
 U. S. Geol. Survey: F133, 179, 227; PP150E; WS110

BERKS

Pa. Geol. Survey (3rd): 4, 6, 8, 11
 Pa. Geol. Survey (4th): A177C, 197; G3, 14, 15, 31, 33, 37, 43; M11, 15, 20, 23, 27, 49, 50, 51; W2, 22; PR140, 161; IC4, 23, 34, 35, 38, 41
 U. S. Geol. Survey: B891, 995D, 1082E; GP205, 207, 220, 221, 227, 228, 229, 230, 231, 232, 242, 266, 273

BLAIR

Pa. Geol. Survey (3rd): 8, 11, 12
 Pa. Geol. Survey (4th): A96; G3, 19, 33, 38, 39, 50; M4, 5, 6, 11, 15, 20, 23, 45, 50, 51; W5; PR154; IC4
 U. S. Geol. Survey: F133, 227; WS110
 U. S. Bur. Mines: R4422

BRADFORD

Pa. Geol. Survey (3rd): 8, 11
 Pa. Geol. Survey (4th): G4, 39; M15, 20, 23, 27, 31, 39, 40, 43, 45;
 W6; PR143, 147, 152; IC4, 16
 U. S. Geol. Survey: PP379

BUCKS

Pa. Geol. Survey (3rd): 4, 6, 8, 11
 Pa. Geol. Survey (4th): A206; C9; G3, 28; M5, 18, 20, 23, 27, 43, 50,
 51; W2, 11, 13, 14; PR152; IC4, 24, 28, 30, 40, 42; Map 8
 U. S. Geol. Survey: GQ341, 342; B828, 1121B, 1182E, 1194L; F167;
 GP206, 213, 214, 215, 216, 236, 237, 238, 260, 261, 262, 263; Cir 104
 U. S. Bur. Mines: R4703

BUTLER

Pa. Geol. Survey (3rd): 1, 8, 11
 Pa. Geol. Survey (4th): A36; G7, 32; M2, 4, 6, 11, 15, 17, 19, 20, 31,
 32, 39, 40, 45, 50, 51; W2, 16; SB3, 7, 9; PR122, 148, 150, 157;
 IC4, 16
 U. S. Geol. Survey: B279, 454, 659, 829, 873; F115, 176
 U. S. Bur. Mines: R5927

CAMBRIA

Pa. Geol. Survey (3rd): 8, 11
 Pa. Geol. Survey (4th): G19; M4, 6, 10, 11, 15, 20, 23, 27; W5; IC4, 16
 U. S. Geol. Survey: B447, 531D; F133, 189; WS110
 U. S. Bur. Mines: R4734, 4747

CAMERON

Pa. Geol. Survey (3rd): 8, 11
 Pa. Geol. Survey (4th): G4, 19; M6, 10, 11, 15, 20, 23, 31, 36, 39, 40,
 45; W6; PR139, 143, 144, 147, 150, 155; IC4, 16

CARBON

Pa. Geol. Survey (3rd): 4, 8, 11, 12
 Pa. Geol. Survey (4th): G7, 19, 23, 39; M8, 11, 15, 16, 20, 23, 43, 51;
 W4; PR143, 147, 151; IC4, 5
 U. S. Geol. Survey: Cir 350

CENTRE

Pa. Geol. Survey (3rd): 8, 11, 12
 Pa. Geol. Survey (4th): A96; G3, 19, 29, 38; M4, 5, 6, 10, 15, 20,
 23, 27, 35, 50; W5; PR143, 144, 147, 151; IC4, 16; Map 12
 U. S. Geol. Survey: B659, 855

CHESTER

Pa. Geol. Survey (3rd): 6, 8, 11
 Pa. Geol. Survey (4th): G33, 43; M5, 11, 13, 14, 15, 18, 20, 23, 50;
 W2; IC4, 13, 14, 18, 20, 21, 22, 27, 35, 37
 U. S. Geol. Survey: B725, 799, 891, 1082E, 1082K; F211, 223; PP271;
 GP200, 202, 203, 204, 209, 221, 223, 224, 225, 226, 233, 234
 U. S. Bur. Mines: R4451, 4530

CLARION

Pa. Geol. Survey (3rd): 3, 8, 11
 Pa. Geol. Survey (4th): A54; G39; M4, 6, 10, 15, 19, 20, 23, 31, 32, 50,
 51; SB2, 9; W3; PR148; IC4, 16
 U. S. Geol. Survey: B454; F178
 U. S. Bur. Mines: R5231, 6261

CLEARFIELD

Pa. Geol. Survey (3rd): 8, 11, 12
 Pa. Geol. Survey (4th): A65, 75; M2, 4, 6, 10, 15, 20, 23, 31, 45, 51;
 W5; PR142, 144, 147, 150, 151, 154, 155, 157; IC4, 15; Map 12
 U. S. Geol. Survey: B285, 531D, 659; F189; WS110
 U. S. Bur. Mines: R4894, 5143, 5166, 6261

CLINTON

Pa. Geol. Survey (3rd): 8, 11
 Pa. Geol. Survey (4th): G5, 19; M4, 6, 10, 15, 20, 23, 31, 34, 35, 39,
 45, 50; W5; PR133, 134, 135, 139, 143, 144, 147, 150, 151, 154,
 167; IC4, 15; Map 12

COLUMBIA

Pa. Geol. Survey (3rd): 8, 11
 Pa. Geol. Survey (4th): G4, 7, 19; M5, 8, 11, 15, 20, 23, 43, 45, 50;
 W4; PR130, 152; IC4, 15
 U. S. Geol. Survey: C13, 10, 12, 13
 U. S. Bur. Mines: R4743

CRAWFORD

Pa. Geol. Survey (3rd): 8, 11
 Pa. Geol. Survey (4th): G32; M6, 11, 15, 18, 20, 22, 23, 31, 32, 45;
 SB4; W3; PR135, 139, 143, 148, 150, 151, 154, 155, 157; IC4, 15

CUMBERLAND

Pa. Geol. Survey (3rd): 8, 11
 Pa. Geol. Survey (4th): A127; G3, 8, 33; M11, 15, 18, 20, 23, 26, 27,
 50, 51; W2; PR169; IC4
 U. S. Geol. Surveys: GQ28; GP274, 275, 276, 277
 U. S. Bur. Mines: R4436

DAUPHIN

Pa. Geol. Survey (3rd): 8, 11
 Pa. Geol. Survey (4th): A137A&B; G3, 4, 7, 8, 13, 19, 37, 39, 43, 44;
 M8, 15, 20, 23, 50, 51; W2, 4; PR130; IC4, 45
 U. S. Geol. Survey: GP267, 268, 269, 275; HA57

DELAWARE

Pa. Geol. Survey (3rd): 8, 11
Pa. Geol. Survey (4th): G33; M13, 15, 20, 23, 27; W2, 13; IC13, 14,
18, 19, 21, 22
U. S. Geol. Survey: F162, 223; GP200, 201, 203, 204

ELK

Pa. Geol. Survey (3rd): 8, 11, 12
Pa. Geol. Survey (4th): M4, 6, 10, 11, 15, 18, 19, 20, 31, 32, 39, 40,
45, 50; W6; PR142, 144, 148, 150, 151, 155, 157; IC4, 15
U. S. Bur. Mines: R6261

ERIE

Pa. Geol. Survey (3rd): 8, 11
Pa. Geol. Survey (4th): G32; M11, 15, 18, 20, 23, 31, 39, 40, 45, 51;
W3; PR139, 143, 144, 147, 150, 151, 154, 157; IC4, 13; WSR38
U. S. Geol. Survey: Cir 174

FAYETTE

Pa. Geol. Survey (3rd): 8, 11, 12
Pa. Geol. Survey (4th): A48; C26; G3, 19, 39; M2, 4, 5, 6, 10, 11, 15,
17, 18, 19, 20, 31, 39, 45, 50, 51; W1; PR124, 135, 144, 147, 157;
IC4, 15

FOREST

Pa. Geol. Survey (3rd): 8, 11, 12
Pa. Geol. Survey (4th): G7; M4, 6, 15, 18, 19, 20, 23, 31, 32, 38, 40;
W3; PR148; IC4, 15; Map 4
U. S. Geol. Survey: B531D

FRANKLIN

Pa. Geol. Survey (3rd): 8, 11
Pa. Geol. Survey (4th): A109A; G3, 19, 37, 38; M11, 15, 18, 20, 23,
27, 50, 51; W2; IC4
U. S. Geol. Survey: F170, 179, 225; WS110

FULTON

Pa. Geol. Survey (3rd): 8, 10, 11
Pa. Geol. Survey (4th): A109A, G19, 33, 39; M6, 15, 18, 20, 23, 27,
50, 51; W5; IC4, 17
U. S. Geol. Survey: F170, 179

GREENE

Pa. Geol. Survey (3rd): 8, 11
Pa. Geol. Survey (4th): C30; G7, 39; M2, 4, 6, 15, 17, 19, 20, 23, 31,
32; SB1; W1; PR148; IC4, 15
U. S. Geol. Survey: B304, 318; F82, 121, 146
U. S. Bur. Mines: R5143

HUNTINGDON

Pa. Geol. Survey (3rd): 8, 10, 11
Pa. Geol. Survey (4th): A96; G3, 19, 38, 39; M5, 6, 15, 18, 20, 27, 43,
50, 51; W5; PR152; IC4
U. S. Geol. Survey: F227
U. S. Bur. Mines: R4326

INDIANA

Pa. Geol. Survey (3rd): 8, 11
Pa. Geol. Survey (4th): A55, 57, 65; G3, 39; M2, 4, 6, 10, 15, 17, 19, 20,
23, 45, 50, 51; W3; PR147, 150, 151, 154, 157; IC4, 15
U. S. Geol. Survey: B256, 531D, 659; F102, 110, 123, 189; WS110
U. S. Bur. Mines: R4757, 4763, 5314

JEFFERSON

Pa. Geol. Survey (3rd): 8, 11
Pa. Geol. Survey (4th): A54, 55, 65; G39; M2, 4, 6, 11, 15, 19, 20, 23,
31, 32, 39, 45, 50, 51; W3; PR148, 150, 151, 154, 157; IC4, 15
U. S. Bur. Mines: R4840, 4941

JUNIATA

Pa. Geol. Survey (3rd): 8, 11
Pa. Geol. Survey (4th): A127; G19, 29; M15, 18, 20, 23, 39, 45, 50, 51;
W5; PR144, 155; IC4

LACKAWANNA

Pa. Geol. Survey (3rd): 8, 11
Pa. Geol. Survey (4th): G7, 9, 17, 39; M8, 15, 20, 23, 45; W4; PR130,
151; IC4, 15
U. S. Geol. Survey: PP193D
U. S. Bur. Mines: B494

LANCASTER

Pa. Geol. Survey (3rd): 4, 8, 11
Pa. Geol. Survey (4th): A168, 177C, 178; G3, 7, 33, 43; M5, 11, 15, 16,
20, 23, 27, 50, 51; W2; PR153; IC4, 14, 31, 32, 33, 34, 37, 41
U. S. Geol. Survey: B799, 840, 891; GP217, 218, 219, 220, 233, 234, 239,
240, 241, 242, 243, 244, 245, 255, 256, 257, 258, 259, 269
U. S. Bur. Mines: R4247, 4383

LAWRENCE

Pa. Geol. Survey (3rd): 4, 8, 11
Pa. Geol. Survey (4th): A5; G7, 32; M2, 4, 6, 15, 17, 20, 31, 32, 45,
51; W3, 15, 16; PR151; IC4, 15
U. S. Geol. Survey: B873, 1143B

LEBANON

Pa. Geol. Survey (3rd): 8, 11
Pa. Geol. Survey (4th): A167C&D, 177C; G3, 19, 31, 33, 35, 37, 43;
M11, 15, 16, 20, 23, 27, 50, 51; W2, 4, 18; PR130; IC4, 41
U. S. Geol. Survey: B359; GP239, 254, 255, 256

LEHIGH

Pa. Geol. Survey (3rd): 4, 5, 6, 8, 11
Pa. Geol. Survey (4th): A206; C39; G7, 16, 31, 33, 37, 45; M5, 11, 16,
20, 23, 27, 50, 51; W2; IC4, 23, 24, 28, 42, 44
U. S. Geol. Survey: B1082E; GP205, 206, 213, 266
U. S. Bur. Mines: R4180

LUZERNE

Pa. Geol. Survey (3rd): 4, 8, 11
Pa. Geol. Survey (4th): G9, 19, 26, 39; M8, 15, 20, 23, 39, 45, 51; W4;
PR130, 144, 155; IC4, 15
U. S. Geol. Survey: PP193D, 473B

LYCOMING

Pa. Geol. Survey (3rd): 4, 8, 11
Pa. Geol. Survey (4th): G3, 7, 19, 39; M2, 11, 15, 20, 23, 27, 35, 39,
43, 45, 50, 51; W6; PR139, 143, 144, 147, 151, 152, 164, 167; IC4, 15
U. S. Geol. Survey: PP379

McKEAN

Pa. Geol. Survey (3rd): 6, 11, 12
Pa. Geol. Survey (4th): G19; M6, 11, 15, 18, 19, 20, 21, 23, 31, 32, 39,
40, 45; W6; PR125, 131, 143, 151, 155; IC4, 15; Map 5
U. S. Bur. Mines: R4842

MERCER

Pa. Geol. Survey (3rd): 8, 11
Pa. Geol. Survey (4th): G32; M2, 4, 6, 11, 15, 20, 23, 31, 32, 39, 45;
W3, 15, 16; PR143, 147, 148; WSR40

MIFFLIN

Pa. Geol. Survey (3rd): 8, 11
Pa. Geol. Survey (4th): G3, 19, 29; M11, 18, 20, 23, 50; W5; IC4

MONROE

Pa. Geol. Survey (3rd): 4, 8, 11, 12
Pa. Geol. Survey (4th): G3, 4, 7, 11, 19, 23, 39; M15, 20, 23, 27, 50, 51;
W4; IC4

MONTGOMERY

Pa. Geol. Survey (3rd): 8, 11
Pa. Geol. Survey (4th): G3, 43; M5, 13, 15, 20, 23, 27, 50, 51; W2, 14,
22; PR146; IC4, 18, 19, 23, 24, 25, 27, 40, 42
U. S. Geol. Survey: B828, 891
U. S. Bur. Mines: R4666

MONTOUR

Pa. Geol. Survey (3rd): 8, 11
Pa. Geol. Survey (4th): G3, 7, 19; M11, 15, 20, 23, 50; W4; IC4

NORTHAMPTON

Pa. Geol. Survey (3rd): 4, 5, 6, 8, 11
Pa. Geol. Survey (4th): A206; C48; G7, 10, 11, 16, 31, 33, 37, 45; M9,
15, 16, 20, 23, 27; W2; IC4, 28, 29
U. S. Geol. Survey: B920, 1194L; GP213, 235, 236

NORTHUMBERLAND

Pa. Geol. Survey (3rd): 8, 11
Pa. Geol. Survey (4th): G3, 4, 7, 13, 19, 39; M5, 8, 11, 15, 20, 23, 39,
43, 45, 50, 51; W4; PR130, 147, 150; IC4, 15
U. S. Geol. Survey: C13, 7, 10, 12, 46, 47, 48

PERRY

Pa. Geol. Survey (3rd): 4, 8, 11
Pa. Geol. Survey (4th): A127, 137A&B; G3, 4, 8, 19, 29, 30; M15, 20,
23, 51; W5; IC4

PHILADELPHIA

Pa. Geol. Survey (3rd): 6, 8, 11
Pa. Geol. Survey (4th): G41; M15, 20, 23, 27; W2, 13; IC4
U. S. Geol. Survey: F162; WS110, 1586-C

PIKE

Pa. Geol. Survey (3rd): 8, 11
Pa. Geol. Survey (4th): G4, 19, 39, M15, 20, 23, 45, 51; W4; PR155; IC4

POTTER

Pa. Geol. Survey (3rd): 8
Pa. Geol. Survey (4th): G4, 19; M6, 15, 18, 19, 20, 23, 30, 31, 39, 40,
45; W6; PR135, 139, 143, 144, 147, 148, 150, 151, 154, 155, 157,
167; IC4, 15
U. S. Geol. Survey: F92; PP288

SCHUYLKILL

Pa. Geol. Survey (3rd): 8, 11
Pa. Geol. Survey (4th): G7, 14, 19; M15, 20, 23, 50, 51; W4; PR130; IC4
U. S. Geol. Survey: B1111F; C113, 14, 19, 21, 43

SNYDER

Pa. Geol. Survey (3rd): 8, 11
Pa. Geol. Survey (4th): G3, 19; M15, 18, 20, 23, 50; W5; PR151, 154;
IC4, 15; WSR41

SOMERSET

Pa. Geol. Survey (3rd): 4, 8, 11

Pa. Geol. Survey (4th): C56a, G39; M4, 6, 15, 20, 23, 27, 31, 45, 50, 51; W5; PR144, 149, 155, 157; IC4, 15

U. S. Geol. Survey: F160, 224

U. S. Bur. Mines: R4834, 4998, 5269

SULLIVAN

Pa. Geol. Survey (3rd): 8, 11

Pa. Geol. Survey (4th): G7, 33, 39; M15, 20, 23, 27, 39, 43, 45; W6; PR130, 139, 150, 152; IC4, 15

U. S. Geol. Survey: PP379

SUSQUEHANNA

Pa. Geol. Survey (3rd): 8, 11

Pa. Geol. Survey (4th): G19, 39; M15, 18, 20, 23, 27, 51; W4; PR130, 154, 157; IC4, 15

TIOGA

Pa. Geol. Survey (3rd): 4, 8, 11

Pa. Geol. Survey (4th): G4, 19, 39; M2, 6, 15, 18, 20, 23, 27, 31, 32, 40, 45; W6; PR135, 143, 148, 150, 151, 154, 155, 157, 164; IC4

U. S. Geol. Survey: F92, 93

UNION

Pa. Geol. Survey (3rd): 4, 8, 11

Pa. Geol. Survey (4th): G3, 7; M15, 18, 20, 23, 39, 45, 50, 51; W5; PR147, 150; IC4, 15

VENANGO

Pa. Geol. Survey (3rd): 4, 8, 11

Pa. Geol. Survey (4th): G7, 32; M4, 6, 11, 19, 20, 22, 23, 24, 25, 27, 31, 32; W3; SB2, 3, 4, 9; PR122, 148; IC4, 15

U. S. Geol. Survey: B454

WARREN

Pa. Geol. Survey (3rd): 8, 11, 12

Pa. Geol. Survey (4th): G7, 19, 32; M6, 15, 18, 19, 20, 22, 23, 31, 38, 45, 52, 53; W3; SB4; PR144, 148, 150, 154, 157, 162, 163; IC4, 15; Map 4, 6

U. S. Geol. Survey: F172

WASHINGTON

Pa. Geol. Survey (3rd): 8, 11

Pa. Geol. Survey (4th): G39; M2, 4, 6, 15, 17, 18, 19, 20, 28, 29, 31, 32, 50, 51; W1; SB1; PR147, 148; IC4, 15

U. S. Geol. Survey: GQ283, 333, 334; B300, 456; F94, 144, 177, 180

U. S. Bur. Mines: R5109, 5475

WAYNE

Pa. Geol. Survey (3rd): 8, 11

Pa. Geol. Survey (4th): G19, 39; M15, 20, 23, 45, 51; W4; PR130, 151, 155, 157; IC4, 15

WESTMORELAND

Pa. Geol. Survey (3rd): 8, 11, 12

Pa. Geol. Survey (4th): A36, 37, 48; G3, 39; M2, 4, 6, 10, 11, 15, 17, 19, 20, 31, 39, 45, 50, 51; PR135, 139, 144, 147, 150, 151, 154, 155, 157; IC4, 15

U. S. Geol. Survey: B659; F110, 224

U. S. Bur. Mines: R4803, 4823, 5374

WYOMING

Pa. Geol. Survey (3rd): 4, 8, 11

Pa. Geol. Survey (4th): G7, 39; M15, 20, 23, 27, 43; W4; PR144, 152; IC4, 15

U. S. Geol. Survey: PP210B, 379

YORK

Pa. Geol. Survey (3rd): 4, 8, 11

Pa. Geol. Survey (4th): C67; G3, 7, 33, 43; M5, 11, 15, 18, 20, 23, 27, 50, 51; IC4, 31, 45, 46

U. S. Geol. Survey: B799, 840, 969A; CQ28; PP204; GP217, 270, 271, 272, 274, 275, 277, 281, 282, 286, 287

U. S. Bur. Mines: R4145

COMMODITIES INDEX

ABRASIVES (Corundum, Garnet)

Pa. Geol. Survey (3rd): 8, 9, 11

Pa. Geol. Survey (4th): C1; M18; IC13

U. S. Geol. Survey: B624, 828, 891; F162, 167, 225

ALUMINUM

Pa. Geol. Survey (4th): G1

U. S. Geol. Survey: B465

ANTHRACITE, see **Coal**

ASBESTOS

Pa. Geol. Survey (3rd): 9
Pa. Geol. Survey (4th): C1; G1; M18
U. S. Geol. Survey: B624, 920, 1182K; F225

BARITE

Pa. Geol. Survey (3rd): 9
Pa. Geol. Survey (4th): A96; C9; G1; M18; IC17
U. S. Geol. Survey: B624, 855; F170

BERYL

Pa. Geol. Survey (3rd): 9
U. S. Geol. Survey: B626

BITUMINOUS COAL, see **Coal**

BRICK CLAY, see **Clay**

BRINE, see **Salt**

BUILDING STONE, see **Stone**

CEMENT MATERIALS

Pa. Geol. Survey (3rd): 5, 8, 9, 11
Pa. Geol. Survey (4th): A206; C48; G1; IC2
U. S. Geol. Survey: B447, 624, 855; F82, 170, 174

CHROMIUM

Pa. Geol. Survey (3rd): 9
Pa. Geol. Survey (4th): G1; PR153; IC14
U. S. Geol. Survey: B624, 725, 799, 1082K; F211
U. S. Bur. Mines: R4383

CLAY (Shale, Fire Clay, Brick Clay)

Pa. Geol. Survey (3rd): 8, 9, 11
Pa. Geol. Survey (4th): A5, 27, 36, 37, 54, 55, 57, 65, 75, 96, 127, 137A&B, 168, 177C, 206; C1, 9, 26, 30, 39, 56a, 67; G1, 43; M10, 17, 23, 51; PR169; IC2; Map 12
U. S. Geol. Survey: B256, 279, 286, 300, 447, 624, 840, 855, 873, 891, 930; F82, 92, 93, 94, 102, 110, 115, 121, 123, 125, 133, 134, 144, 163, 167, 170, 172, 174, 177, 178, 179, 180, 189, 223, 224, 225, 227; GQ28; PP204

COAL (Bituminous Coal, Anthracite)

Pa. Geol. Survey (3rd): 8, 9, 10, 11
Pa. Geol. Survey (4th): A5, 27, 36, 37, 48, 54, 55, 57, 65, 178; C26, 30, 56a; G1; M2, 4, 6, 8, 12, 42, 48; PR130, 159; Map 2
U. S. Geol. Survey: B256, 279, 285, 286, 300, 318, 447, 454, 624, 659, 840, 873, 995A, 1111F, 1143A, 1143B; F82, 92, 94, 102, 110, 115, 121, 123, 125, 126, 133, 134, 144, 172, 174, 177, 179, 224, 227, 256; PP193D; C13, 7, 10, 12, 13, 14, 19, 21, 25, 43, 46, 47, 48

COBALT

Pa. Geol. Survey (3rd): 9
Pa. Geol. Survey (4th): G1, 35

COPPER

Pa. Geol. Survey (3rd): 8, 9, 11
Pa. Geol. Survey (4th): C1, 9, 48; G1, 35
U. S. Geol. Survey: B624, 828, 891; F162, 167, 225

CORUNDUM, see **Abrasives**

CRUSHED STONE, see **Stone**

DOLOMITE, see **Limestone**

FELDSPAR

Pa. Geol. Survey (3rd): 8, 9, 11
Pa. Geol. Survey (4th): G1; M13, 18
U. S. Geol. Survey: B624, 1182K; F225

GOLD

Pa. Geol. Survey (3rd): 9
Pa. Geol. Survey (4th): G1, 35
U. S. Geol. Survey: B624

FLUORITE

Pa. Geol. Survey (3rd): 9
U. S. Survey: B624, 855

GARNET, see **Abrasives**

GLASS SAND, see **Sand**

GRAPHITE

Pa. Geol. Survey (3rd): 6, 8, 9, 11
Pa. Geol. Survey (4th): A206; C9, 39; G1
U. S. Geol. Survey: B624, 891, 1082K; F167
U. S. Bur. Mines: R4530

GANISTER, see **Stone**

GRANITE, see **Stone**

GROUND WATER (Water Resources)

Pa. Geol. Survey (3rd): 8, 9, 11

Pa. Geol. Survey (4th): A5, 27, 36, 37, 54, 55, 57, 75, 96, 177C, 178, 206, C1, 26, 30, 39, 48, 56a, 67; G32; W1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22; PR146; ES3

U. S. Geol. Survey: B256, 300, 447, 828, 840, 855, 873, 891; F102, 121, 123, 133, 144, 146, 162, 167, 170, 172, 174, 177, 179, 180, 189, 223, 224, 225, 227; PP204, 417A, 381; Cir 104, 174, 190, 257, 315; WS106, 108, 109, 110, 1538H; HA198

IRON ORE

Pa. Geol. Survey (3rd): 8, 9, 11

Pa. Geol. Survey (4th): A36, 54, 55, 57, 65, 96, 127, 167C, 168; C1, 9, 26, 39, 48, 67; G1, 35; M14, 18, 26, 49

U. S. Geol. Survey: B279, 359, 447, 624, 799, 840, 828, 855, 873, 891, 920, 969A, 995 D, 1182K; F82, 93, 115, 121, 125, 162, 170, 223, 224, 225, 227, 279; GQ28; PP204

U. S. Bur. Mines: R4145, 5165

LEAD (Zinc)

Pa. Geol. Survey (3rd): 9

Pa. Geol. Survey (4th): A96, 168; C9, 26, 39; G1; M5

U. S. Geol. Survey: B855, 891, 920; F162

U. S. Bur. Mines: R4180, 4247, 4422, 4451, 4703, 4743

LIMESTONE (Dolomite, Marble)

Pa. Geol. Survey (3rd): 8, 9, 11

Pa. Geol. Survey (4th): A5, 27, 36, 37, 48, 54, 55, 57, 65, 75, 96, 127, 137AGB, 167CGD, 168, 178, 206; C1, 9, 26, 30, 39, 48, 56a, 67; G1, 26, 31, 35, 37, 38, 44, 45, 47; M15, 20, 50; PR136, 140; IC2

U. S. Geol. Survey: B256, 279, 286, 300, 447, 624, 799, 840, 828, 855, 873, 920, 1194L; F82, 92, 93, 94, 102, 111, 115, 125, 133, 134, 144, 146, 170, 174, 177, 178, 180, 189, 224, 225, 227; PP204

MAGNESITE

U. S. Geol. Survey: B1182K

MANGANESE

Pa. Geol. Survey (3rd): 9

Pa. Geol. Survey (4th): C1, 39, 48; G1; M26, 27; PR128

U. S. Geol. Survey: B624; F170, 225; GQ28

U. S. Bur. Mines: R4312, 4326, 4436

MARBLE, see Limestone**MICA**

Pa. Geol. Survey (3rd): 9, 11

Pa. Geol. Survey (4th): A177C, 206; G1

U. S. Geol. Survey: B624

MINERAL PIGMENTS (Mineral Paint)

Pa. Geol. Survey (3rd): 4, 8, 9, 11

U. S. Geol. Survey: B624

MOLYBDENITE

Pa. Geol. Survey (3rd): 9

U. S. Geol. Survey: B624

NATURAL GAS, see Oil and Gas**NICKEL**

Pa. Geol. Survey (3rd): 8, 9

Pa. Geol. Survey (4th): G1

U. S. Geol. Survey: B624, 799

OIL AND GAS (Natural Gas, Petroleum)

Pa. Geol. Survey (3rd): 1, 3, 8, 9, 11

Pa. Geol. Survey (4th): A27, 48, 65, 75; C26, 56a; G49; M1, 21, 22, 24, 25, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 45, 46, 52, 53; SB1, 2, 3, 4, 5, 6, 7, 9; PR122, 123, 124, 125, 127, 129, 138, 139, 142, 143, 144, 147, 148, 150, 151, 154, 155, 157, 160, 163, 165, 166, 168; WSR38, 40, 41, 56; Maps 3, 4, 5, 6, 10

U. S. Geol. Survey: B256, 279, 286, 300, 304, 318, 454, 456, 531D, 624, 829, 873; F82, 92, 94, 102, 110, 115, 121, 123, 125, 134, 144, 146, 172, 177, 178, 180, 189

U. S. Bur. Mines: R4842

PEAT

Pa. Geol. Survey (4th): A296; G32

U. S. Geol. Survey: B624

PHOSPHATE

Pa. Geol. Survey (3rd): 9

Pa. Geol. Survey (4th): M18

PYRITE

Pa. Geol. Survey (3rd): 9, 11

Pa. Geol. Survey (4th): A206; C39; G1, 35

PYROPHYLLITE

Pa. Geol. Survey (4th): IC2

QUARTZ (Sand and vein), see Sand**ROOFING GRANULES**

Pa. Geol. Survey: C1, 67; IC2

RUTILE

U. S. Geol. Survey: B624, 1182K

SALT (Brine)

Pa. Geol. Survey (3rd): 8, 11
Pa. Geol. Survey (4th): G1; M18, 47; PR145
U. S. Geol. Survey: B624; F110

SAND (Sand and Gravel, Moulding Sand, Glass Sand, Quartz)

Pa. Geol. Survey (3rd): 8, 11, 12
Pa. Geol. Survey (4th): A27, 36, 54, 55, 168, 177C, 178, 206; C9, 26, 30, 39; G1, 10, 32; M3, 11; IC2
U. S. Geol. Survey: B279, 286, 447, 624, 799, 840, 855, 828, 891, 1121B; F82, 94, 115, 162, 167, 172, 177; PP204, 288, 379

SANDSTONE

Pa. Geol. Survey (3rd): 8
Pa. Geol. Survey (4th): A5, 27, 36, 37, 48, 55, 57, 75, 127, 137A&B, 177C; C26, 30; G1; M15
U. S. Geol. Survey: B256, 286, 300, 624, 873; F82, 102, 125, 134, 144, 146, 177, 178, 180

SCHEELITE (Tungsten)

Pa. Geol. Survey (3rd): 9

SERPENTINE

Pa. Geol. Survey (3rd): 9
Pa. Geol. Survey (4th): M15
U. S. Geol. Survey: B624, 920, 1082K

SHALE, see Clay**SILVER**

Pa. Geol. Survey (3rd): 9
Pa. Geol. Survey (4th): G1, 35
U. S. Geol. Survey: B799, 855

SLATE

Pa. Geol. Survey (3rd): 8, 9, 11
Pa. Geol. Survey (4th): A206; C1, 39, 48; G1; M9, 16; IC2
U. S. Geol. Survey: B624, 920, 1182K

STONE (Building Stone, Crushed Stone, Gneiss, Granite), see also specific type of stone

Pa. Geol. Survey (4th): A48, 96, 168, 177C, 206; C1, 9, 39, 48, 67; M15
U. S. Geol. Survey: B279, 447, 828, 840, 855, 891; F82, 92, 94, 110, 115, 121, 133, 162, 167, 170, 172, 174, 211, 223, 227, 279; PP204

TALC

Pa. Geol. Survey (3rd): 5, 8, 9, 11
U. S. Geol. Survey: B624, 920, 1182K

URANIUM

Pa. Geol. Survey (3rd): 9
Pa. Geol. Survey (4th): M43; PR152; IC5
U. S. Geol. Survey: Cir 350

VERMICULITE

Pa. Geol. Survey (4th): M18

WATER RESOURCES, see Ground Water**ZINC, see Lead**

LIST OF PUBLICATIONS

PENNSYLVANIA GEOLOGICAL SURVEY

Fourth Series

Order free publication from Pennsylvania Geological Survey, Department of Internal Affairs, Harrisburg, and priced publications from Capitol Book Store, 54 Main Capitol Bldg., Harrisburg, Pa. 17125.

ATLAS SERIES (Map scale is 1:62,500 unless stated)

A 5	New Castle quadrangle , by F. W. DeWolf. 1929. 238 p., 17 figs., 18 pls. including 1 topographic and 4 geologic maps	\$1.00
A 27	Pittsburgh quadrangle , by M. E. Johnson. 1928. 236 p., 28 figs., 33 pls. including 1 topographic and 3 geologic maps	1.00
A 36	Freeport quadrangle , by H. H. Hughes. 1933. 272 p., 72 figs., 10 pls. including 1 topographic and 2 geologic maps	1.75
*A 37	Greensburg quadrangle , by M. E. Johnson. 1926. 162 p., 25 figs., 13 pls. including 1 topographic and 3 geologic maps	*
A 48	Donegal quadrangle , by M. N. Shaffner. 1963. 116 p., 16 figs., 4 pls. including geologic map and cross section (1:62,500)	3.20
*A 54	Brookville quadrangle , by C. K. Graeber, R. M. Foose, and M. N. Shaffner. 1942. 136 p., 14 figs., 16 pls. including 1 topographic and 3 geologic maps	*
A 55	Smicksburg quadrangle , by M. N. Shaffner. 1947. 300 p., 103 figs., 11 pls. including 1 topographic, 1 geologic, and 1 mineral resources maps	2.00
A 57	New Florence quadrangle , by M. N. Shaffner. 1958. 165 p., 16 figs., 13 pls. including 1 geologic and mineral resources map	4.80
*A 65	Punxsutawney quadrangle , by G. H. Ashley. 1926. 145 p., 26 figs., 6 pls. including 1 topographic and 3 geologic maps	*
*A 75	Curwensville quadrangle , by G. H. Ashley. 1940. 140 p., 32 figs., 4 pls. including 1 topographic, 1 geologic, and 1 mineral resources maps	*
A 85ab	Houtzdale quadrangle , (northern half), by W. E. Edmunds	(in preparation)
A 96	Tyrone quadrangle , by Charles Butts, F. M. Swartz, and Bradford Willard. 1939. 116 p., 4 figs., 14 pls. including 1 geologic map and cross sections	1.00
A 109a	McConnellsburg quadrangle , by K. L. Pierce. 1966. Geologic map and text	(in press)
A 126	Mifflintown quadrangle , by R. R. Conlin and D. M. Hoskins. 1962. 46 p., 3 figs., 2 pls. including 1 geologic map and 1 cross section sheet (1:24,000)	4.75
A 127	Loysville quadrangle , by J. T. Miller. 1961. 47 p., 8 figs., 2 pls. including 1 geologic map and one cross section sheet (1:24,000)	8.85
A 137ab	New Bloomfield quadrangle , (northern half) by J. L. Dyson. 1963. 63 p., 3 figs., geologic map and sections (1:24,000)	2.55
A 137cd	New Bloomfield quadrangle , (southern half), by J. L. Dyson	(in preparation)
A 167c	Lebanon (7½') quadrangle, by A. R. Geyer et al. 1958. Geologic map, cross sections, and text on reverse (1:24,000)	1.90
A 167d	Richland (7½') quadrangle, by Carlyle Gray et al. 1958. Geologic map, cross sections, and text on reverse (1:24,000)	1.80
A 168	Lancaster quadrangle , by Anna I. Jonas and G. W. Stose. 1930. 103 p., 10 figs., 23 pls. including 1 topographic and 1 geologic map	1.00
A 177c	Womelsdorf quadrangle , by A. R. Geyer and others. 1963. 93 p., 35 figs. and 1 geologic map (1:24,000)	2.85
*A 178	New Holland quadrangle , by Anna I. Jonas and G. W. Stose. 1926. 40 p., 7 pls. including 1 topographic and 1 geologic map	*
A 197	Boyertown quadrangle, Precambrian geology , by T. V. Buckwalter. 1958. Geologic map and text (1:24,000)	3.20
*A 206	Allentown quadrangle , by B. L. Miller. 1926. 195 p., 2 figs., 15 pls. including 1 topographic and 1 geologic map	*

* Out-of-print.

COUNTY REPORTS (Map scales are 1:62,500)

C 1	Geology and mineral resources of Adams County , by G. W. Stose. 1932. 153 p., 11 figs., 26 pls. including 1 topographic and 1 geologic map	1.00
C 9	Geology and mineral resources of Bucks County , by Bradford Willard et al. 1959. 263 p., 39 figs., 23 pls. including 1 topographic and 1 geologic map	7.25
C 26	Geology and mineral resources of Fayette County , by W. O. Hickok and F. T. Moyer. 1940. 530 p., 146 figs., 1 topographic, 1 geologic, and 1 coal and surface structure maps	3.25
C 30	Geology and mineral resources of Greene County , by R. W. Stone. 1932. 175 p., 56 figs., 3 pls. including 1 topographic and 1 geologic map	1.00
C 39	Lehigh County, geology and geography , by B. L. Miller et al. 1942. 492 p., 17 figs., 39 pls. including 1 topographic and mine map and 1 geologic map	3.30
C 48	Northampton County, geology and geography , by B. L. Miller, D. M. Fraser, and R. L. Miller. 1939; 2nd printing, 1965. 496 p., 36 figs., 29 pls. including geologic map (reprint in press)	
C 56a	Geology and mineral resources of southern Somerset County , by N. K. Flint. 1965. 267 p., 55 figs., 13 pls. including geologic map and coal reserves maps (Hard bound)	6.75
C 67	Geology and mineral resources of York County , by G. W. Stose and Anna I. Jonas. 1939. 195 p., 14 figs., 38 pls. including geologic map	2.25

EDUCATIONAL SERIES

ES 1	Common rocks and minerals of Pennsylvania , by D. M. Lapham and A. R. Geyer. 1962. 22 p., 25 figs.	free
ES 2	Common fossils of Pennsylvania , by D. M. Hoskins. 1962. 20 p., 6 figs., 3 pls.	free
ES 3	Ground water , by R. C. Bolger. 1962. 11 p., 7 figs.	free
ES 4	Pennsylvania geology summarized , by Bradford Willard. 1962. 17 p., 3 figs., 1 pl.	free
ES 5	Geology and the Gettysburg Campaign , by Andrew Brown. 1962	free
ES 6	Pennsylvania and the Ice Age , by V. C. Shepps. 1962.	free

GENERAL GEOLOGY REPORTS

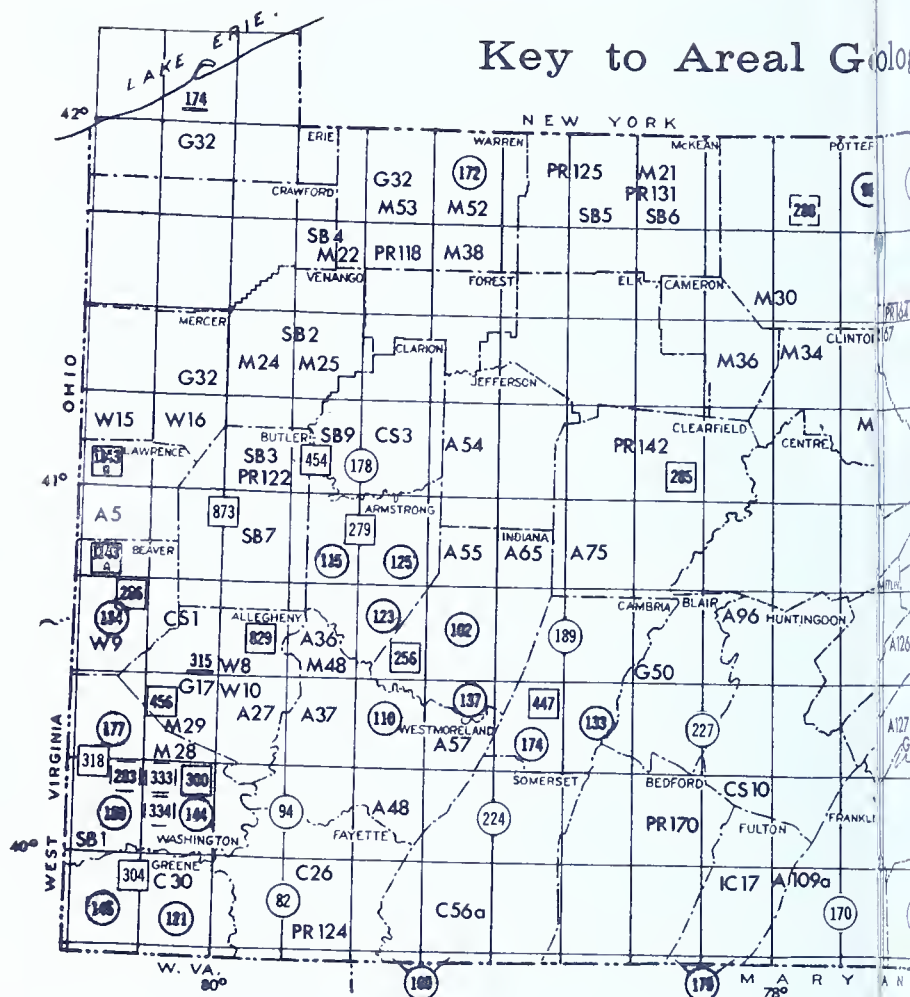
*G 1	A syllabus of Pennsylvania geology and mineral resources , by G. H. Ashley. 1931. 160 p., 118 figs., 2 pls. including a small colored geologic map	*
*G 2	Meteorites found in Pennsylvania , by R. W. Stone. 1932. 28 p., 14 figs.	*
*G 3	Pennsylvania caves , by R. W. Stone. 1932. 143 p., 68 figs.	*
*G 4	Devonian faunas in Pennsylvania , by Bradford Willard. 1932. 43 p.	*
G 5	Correlation of the Ordovician limestone at Salona, Clinton County by Lawrence Whitcomb. 1932. 16 p., 1 pl.	0.15
*G 6	Scenery of Pennsylvania , by G. H. Ashley. 1933. 91 p., 90 figs., 1 pl.	*
G 7	Glacial deposits outside the Wisconsin terminal moraine in Pennsylvania , by Frank Leverett. 1934; 2nd printing, 1958. 140 p., 38 figs., 1 pl.	1.00
*G 8	Guidebook: A Paleozoic section in south-central Pennsylvania , by Bradford Willard and A. B. Cleaves. 1938. 38 p., 10 pls.	*
G 9	The geomorphology of the Wyoming-Lackawanna region, Pennsylvania , by H. I. Itter. 1938; 2nd printing, 1959. 82 p., 46 figs., 9 pls.	0.70
G 10	Recent geological history of the Delaware Valley below the Water Gap , by Freeman Ward. 1938; 2nd printing, 1962. 76 p., 13 figs., 10 pls.	0.55
*G 11	Guidebook: A Paleozoic section at Delaware Water Gap , by Bradford Willard. 1938. 35 p., 9 figs.	*
*G 12	Guidebook: Highway geology from Philadelphia to Pittsburgh , by Bradford Willard. 1939. 42 p., 17 pls.	*
*G 13	Guide to the geology from Dauphin to Sunbury , by Bradford Willard. 1939. 24 p., 7 pls.	*
*G 14	Guide to the geology of the upper Schuylkill Valley , by Bradford Willard. 1938. 23 p., 8 figs., 1 pl.	*
*G 15	Guidebook to the geology near Reading , by Bradford Willard and D. M. Fraser. 1939. 27 p., 11 figs.	*
*G 16	Guide to places of geologic interest in the Lehigh Valley , by B. L. Miller. 1939. 47 p., 24 figs.	*

* Out-of-print.

G 17	Guidebook to the geology about Pittsburgh , by Henry Leighton. 1939; 2nd printing, 1947. 35 p., 13 figs.	0.25
G 18	Number assigned, but report never published.	
*G 19	The Devonian of Pennsylvania , by Bradford Willard, F. M. Swartz, and A. B. Cleaves. 1939. 450 p., 95 figs., 32 pls.	*
*G 20	Guidebook to the geology of the Pennsylvania Turnpike , by A. B. Cleaves and G. H. Ashley. 1942. 41 p., 23 figs., 14 pls. (Superseded by G 24)	*
G 21	Subsurface Trenton and sub-Trenton rocks in Ohio, New York, Pennsylvania, and West Virginia , by Chas. R. Fettke. 1948. 35 p., 7 figs. (reprinted from Bull. AAPG, vol. 32, no. 8)	0.20
G 22	Trenton and sub-Trenton of outcrop areas in New York, Pennsylvania, and Maryland , by F. M. Swartz. 1948. 102 p., 26 figs. (reprinted from Bull. AAPG, vol. 32, no. 8)	0.35
G 23	Pleistocene terraces of the Susquehanna River , by L. C. Peltier. 1949. 152 p., 49 figs.	2.35
G 24	Guidebook to the geology of the Pennsylvania Turnpike from Carlisle to Irwin , by A. B. Cleaves and R. C. Stephenson. 1949. 72 p., 7 figs., 28 pls. including geologic strip maps	0.50
*G 25	Subsurface projection of Cambro-Ordovician sediments in the Pennsylvania-New York region , by F. M. Swartz. 1950. 18 p., 15 figs. (reprinted from Producers Monthly)	*
G 26	The Pennsylvania Mill Creek limestone in Pennsylvania , by Minchen Ming Chow. 1951. 36 p., 3 figs., 4 pls.	0.75
G 27	Structure contour maps of the plateau region of north-central and western Pennsylvania , by Chas. R. Fettke. 1954. 45 p., 3 pls. including surface and subsurface structure maps (1" = 6 mi.)	1.70
G 28	Upper Cambrian fossils of Bucks County, Pennsylvania , by B. F. Howell. 1957. 39 p., 1 fig., 5 pl.	0.75
G 29	Guide to the highway geology from Harrisburg to Bald Eagle Mountain , by Bradford Willard et al. 1958. 38 p., 2 figs., 8 pls.	0.25
G 30	The geology of Hidden Valley Boy Scout Camp area , by J. T. Miller. 1957. 42 p., 16 figs., 2 pls.	free
G 31	The Annville, Myerstown, and Hershey Formations of Pennsylvania , by C. E. Prouty. 1959. 47 p., 19 figs., 1 pl., 9 measured sections	0.30
G 32	Glacial geology of northwestern Pennsylvania , by V. C. Shepps et al. 1959. 59 p., 11 figs., 1 geologic map (1" = 2 mi.)	1.30
G 33	Mineral collecting in Pennsylvania , by D. M. Lapham and A. R. Geyer. 2nd edition, 1965. 148 p., 33 figs.	0.50
G 34	Bibliography of Pennsylvania Geology to 1949 , by H. R. Cramer. 1961. 453 p., 1 fig.	5.75
G 35	Guide to the geology of Cornwall, Pennsylvania , by Carlyle Gray and D. M. Lapham. 1961. 18 p., 5 figs., 2 pls.	0.30
G 36	Stratigraphy and Paleontology of the Bloomsburg Formation of Pennsylvania and adjacent states , by D. M. Hoskins. 1961. 125 p., 6 figs., 8 pls.	2.75
G 37	Stratigraphy of the Beekmantown Group in southeastern Pennsylvania , by J. P. Hobson, Jr. 1963. 331 p., 27 figs., 22 pls., 15 tables	3.35
G 38	Lithostratigraphy of the Middle Ordovician Salona and Coburn Formations in central Pennsylvania , by R. R. Thompson. 1963. 154 p., 15 figs., 12 pls., 7 tables	1.55
G 39	Symposium on Middle and Upper Devonian stratigraphy of Pennsylvania and adjacent states , V. C. Shepps, editor. 1963. Collected papers by 25 authors. 301 p., 82 figs.	2.05
G 40	Fossil collecting in Pennsylvania , by D. M. Hoskins. 1964. 126 p., 109 figs., 11 pls.	0.45
G 41	Guidebook to the geology of the Philadelphia area , by B. K. Goodwin. 1964. 189 p., 126 figs.	0.70
G 42	Bibliography of Pennsylvania geology, 1950-1959 , by H. R. Cramer. 1965. 237 p. (hard bound)	2.30
G 43	Provenance, dispersal and depositional environments of Triassic sediments in the Newark-Gettysburg Basin , by J. D. Glaeser. 1966 (in press)	
G 44	Geology of the carbonate rocks of Dauphin County, Pennsylvania , by D. B. McLachlan, 1966 (in press)	
G 45	Structure of the Jacksonburg Formation in Northampton and Lehigh Counties, Pennsylvania , by W. C. Sherwood. 1964. 64 p., 34 figs., 1 geologic map (1:62,500)	1.95
G 46	Geologic investigations of the Pennsylvania Piedmont (collected reprints). 1964. 47 p., 22 figs., 6 pls.	0.35
G 47	Stratigraphy of the Lower Ordovician Nittany Dolomite in central Pennsylvania , by A. R. Spelman. 1966 (in press)	

* Out-of-print.

Key to Areal Geology



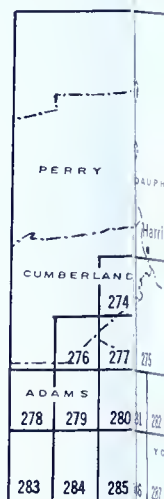
PA. GEOLOGICAL SURVEY

- A ATLAS
- C COUNTY
- G GENERAL GEOLOGY
- M MINERAL RESOURCES
- SB SPECIAL BULLETIN
- W GROUND WATER
- PR PROGRESS REPORT
- IC INFORMATION CIRCULAR
- CS REPT. OF 3rd (Comm.) SURVEY

U. S. GEOLOGICAL SURVEY

- FOLIO
- BULLETIN
- PROFESSIONAL PAPER
- GEOL. QUAD. MAP
- COAL INVESTIGATIONS
- 978 CIRCULAR

Key to
See U.S. Geo.



G 48	Stratigraphy and paleontology of the Mahantango Formation in south-central Pennsylvania , by R. L. Ellison. 1965. 298 p., 8 figs., 19 pls.	2.40
G 49	Stratigraphy of the Cambrian to Middle Ordovician rocks of central and western Pennsylvania , by W. R. Wagner. 1966 (in press)	
G 50	Guide to the bedrock exposures near Horse Shoe Curve, Altoona, Pennsylvania , by F. M. Swartz, 1965. 56 p., 7 figs.	0.35

MINERAL RESOURCE REPORTS

*M 1	Oil and gas fields of Pennsylvania, Vol. 1, Introduction , by G. H. Ashley and J. F. Robinson. 1922. 79 p., 9 figs., 4 pls.	*
*M 2	Oil resources in coals and carbonaceous shales of Pennsylvania , by Chas. R. Fettke. 1923. 119., 16 figs., 6 pls. ..	*
*M 3	Silica refractories of Pennsylvania , by E. S. Moore and T. G. Taylor. 1924. 100 p., 10 figs., 16 pls.	*
*M 4	Bituminous coal losses and mining methods in Pennsylvania , by J. D. Sisler. 1924. 216 p., 29 figs., 1 pl.	*
*M 5	Lead and Zinc ores of Pennsylvania , by B. L. Miller. 1924. 91 p., 7 figs., 5 pls.	*
M 6	Bituminous coal fields of Pennsylvania. Part I. General information on coal , by G. H. Ashley. 1928. 241 p., 32 figs., 17 pls.	0.50
	Part II. Detailed description of coal fields , by J. D. Sisler. 1932; 2nd printing, 1961. 511 p., 152 figs., 14 pls.	2.25
	Part III. Bituminous coal resources , by J. F. Reese and J. D. Sisler. 1928. 153 p., 4 pls.	0.25
	Part IV. Analyses of bituminous coal , by U. S. Bureau of Mines. 1925. 268 p., 1 pl.	0.50
*M 7	Limestones of Pennsylvania , by B. L. Miller. 1925. 368 p., 7 figs., 15 pls. (replaced by bulletin M 20)	*
*M 8	Anthracite losses and reserves in Pennsylvania , by D. G. Ashmead. 1926. 71 p., 13 figs., 1 pl.	*
*M 9	Slate in Northampton County , by C. H. Behre, Jr. 1927. 312 p., 49 figs., 36 pls. (replaced by bulletin M 16)	*
*M 10	Fire clays of Pennsylvania , by J. B. Shaw. 1928. 69 p., 6 figs.	*
*M 11	Moulding sands of Pennsylvania , by R. W. Stone and American Foundrymen's Association. 1928. 94 p., 10 figs., 21 pls.	*
M 12	Anthracite culm and silt , by J. D. Sisler, Thomas Frazer, and D. C. Ashmead, 1928, 259 p., 21 figs., 34 pls.	0.50
*M 13	Feldspar in Pennsylvania , by R. W. Stone and H. Herbert Hughes. 1931. 60 p., 6 figs., 20 pls.	*
*M 14	Magnetite deposits of French Creek, Pennsylvania , by L. L. Smith. 1931. 52 p., 5 figs., 5 pls.	*
M 15	Building stones of Pennsylvania , by R. W. Stone. 1932. 316 p. 164 figs., 4 pls.	1.25
M 16	Slate in Pennsylvania , by C. H. Behre, Jr. 1933. 400 p., 89 figs., 70 pls., including 5 colored maps (supersedes bulletin M 9)	2.75
M 17	Clay and shale resources of southwestern Pennsylvania , by Henry Leighton. 1933. 190 p., 16 figs., 1 colored map. ..	0.75
*M 18	The minerals of Pennsylvania *A. Introduction , by George H. Ashley. 1933. 15 p. ...	*
	*B. Iron ores of Pennsylvania , by W. O. Hickock. 1939. 21 p.	*
	*C. Nonmetallic minerals , by R. W. Stone. 1939. 50 p., 1 fig.	*
*M 19	Contributions to oil and gas geology of western Pennsylvania , by J. D. Sisler et al. 1933. 94 p., 1 fig., 22 pls. ..	*
M 20	Limestones of Pennsylvania , by B. L. Miller. 1934. 729 p., 34 figs., 41 pls (supersedes bulletin M 7)	2.00
M 21	Bradford oil field, Pennsylvania and New York , by Chas. R. Fettke. 1938. 454 p., 113 figs., 21 pls.	3.00
M 22	Oil geology of the Titusville quadrangle, Pennsylvania , by P. A. Dickey. 1941; 2nd printing, 1947. 87 p., 13 figs., 6 pls.	2.00
M 23	Clay and shale resources in Pennsylvania , by Henry Leighton. 1941; 2nd printing, 1959. 245 p., 4 figs., 1 colored map	1.25
M 24	Oil and gas geology of the Franklin quadrangle , by R. E. Sherrill and L. S. Matteson. 1941; 2nd printing, 1963. 71 p., 5 figs., 6 pls.	0.80

* Out-of-print.

M 25	Oil and gas geology of the Oil City quadrangle , by P. A. Dickey and others. 1943; 2nd printing, 1963. 201 p., 17 figs., 8 pls.	1.70
M 26	Iron-Manganese ore deposit at White Rocks, Cumberland County, Pennsylvania , by R. M. Foose. 1946. 35 p., 3 figs., 14 pls.	0.75
M 27	Manganese minerals of Pennsylvania , by R. M. Foose. 1946. 126 p., 25 figs., 27 pls.	1.85
M 28	Oil and gas developments in the North Strabane area, Washington County, Pennsylvania , by Chas. R. Fettke et al. 1946. 62 p., 10 figs., 2 pls.	1.00
M 29	McDonald and adjacent oil fields, Allegheny and Washington Counties, Pennsylvania , by A. I. Ingham et al. 1949. 112 p., 14 figs., 10 pls.	2.00
M 30	East Fork-Warton gas field, Potter County, Pennsylvania , by J. R. Ebright et al. 1949. 44 p., 2 figs., 1 pl.	0.70
M 31	Summarized records of deep wells in Pennsylvania , by Chas. R. Fettke, 1950. 148 p., 2 figs., 2 pls.	1.00
	Extra maps, M31, pl. 1, 4 sheets, per set	0.25
M 32	Crude oil reserves of Pennsylvania , by Wm. S. Lytle. 1950. 256 p., 1 fig., 1 pl.	1.25
	Extra map of oil fields, M32, pl. 1	0.10
M 33	Waterflooding in Pennsylvania , by Chas. R. Fettke. 1950. 30 p., 16 figs.	0.25
M 34	Geology of the Leidy gas field and adjacent areas, Clinton County, Pennsylvania , by J. R. Ebright and A. I. Ingham. 1950. 35 p., 2 figs., 3 pls.	0.75
M 35	The Hyner and Ferney anticlines and adjacent areas, Centre, Clinton, and Lycoming Counties, Pennsylvania , by J. R. Ebright. 1952. 32 p., 2 figs., 2 pls.	0.75
M 36	Surface and subsurface structure of the Driftwood quadrangle , by R. C. Bolger and H. V. Gouse. 1953. 31 p., 1 fig., 3 pls.	0.55
M 37	Oil and gas developments in the Appalachian Basin, past and present , by Chas. R. Fettke. 1953. 15 p., 1 fig. 1 pl.	free
M 38	Oil and gas geology of the Sheffield quadrangle , by A. I. Ingham et al. 1956. 72 p., 4 figs., 9 pls.	1.00
M 39	Summarized records of deep wells in Pennsylvania, 1950 to 1954 , by Chas. R. Fettke. 1956. 114 p., 1 fig., 5 pls.	1.00
M 40	Well-sample descriptions in northwestern Pennsylvania and adjacent states , by Chas. R. Fettke. 1961. 691 p., 4 pls.	2.25
M 41	History, present status, and future possibilities of secondary recovery operations in Pa. , by Wm. S. Lytle. 1960. (reprinted from Interstate Oil Compact Commission Bull., vol. 1, No. 2, Dec. 1959) p. 28-42, 7 figs.	free
M 42	Coal, a petrographic approach , by E. F. Koppe. 1960. 25 p., 7 figs., 5 pls.	0.60
M 43	Uranium in Pennsylvania , by J. F. McCauley. 1961. 75 p., 11 figs., 9 pls.	1.30
M 44	Fuel competition in Pennsylvania's electric generating industry , by G. F. Deasy and P. R. Griess. 1961. 54 p., 21 figs.	0.55
M 45	A summary of oil and gas developments in Pennsylvania—1955 to 1959 , by Wm. S. Lytle et al. 1961. 133 p., 5 figs., 10 pls.	1.45
M 46	Underground gas storage in Pennsylvania , by W. S. Lytle. 1963. 31 p., 1 fig., 14 pls.	.60
M 47	The occurrence of brines in western Pennsylvania , by C. W. Poth. 1962. 53 p., 11 figs.	0.90
M 48	Petrography of the Upper Freeport coal—Harmar and Springdale mines, Allegheny and Westmoreland Counties, Pennsylvania , by E. F. Koppe. 1963. 43 p., 11 figs., 8 tables	.50
M 49	Mineral aspects of the Grace Mine magnetite deposit , by Akio Tsusue. 1964. 10 p., 4 figs.	0.15
M 50	Atlas of Pennsylvania's mineral resources , a 13½" x 18" loose leaf folio with hard cover. Complete edition to date including cover (contents listed below)	2.75
	Part 1. Limestones and dolomites of Pennsylvania , by B. J. O'Neill, Jr. 1964. Six fold-out full-color maps plus text and tables (Scale: 1:250,000)	
M 51	Properties and uses of Pennsylvania shales and clays , by B. J. O'Neill, Jr. and others. 1965. 448 p., 20 figs., 13 tables	4.15
M 52	Oil and gas geology of the Warren quadrangle, Pennsylvania , by W. S. Lytle. 1965.	(in press)
M 53	Oil and gas geology of the Youngsville quadrangle, Pennsylvania , by W. G. McClade. 1964. 56 p., 2 figs., 7 pls.	2.70

* Out-of-print.

GROUND WATER RESOURCE REPORTS

W 1	Ground water in southwestern Pennsylvania , by A. M. Piper. 1933. 410 p., 40 figs.	1.50
*W 2	Ground water in southeastern Pennsylvania , by G. M. Hall. 1934. 255 p., 7 figs., 7 pls.	*
W 3	Ground water in northwestern Pennsylvania , by R. M. Leggette. 1936; 2nd printing, 1957. 215 p., 15 figs., 9 pls.	3.20
W 4	Ground water in northeastern Pennsylvania , by S. W. Lohman. 1937; 2nd printing, 1957. 300 p., 18 figs., 7 pls.	2.70
W 5	Ground water in south-central Pennsylvania , by S. W. Lohman. 1938. 315 p., 11 figs., 19 pls.	1.50
W 6	Ground water in north-central Pennsylvania , by S. W. Lohman. 1939. 220 p., 13 figs., 11 pls.	1.25
W 7	Ground water resources of Pennsylvania , by S. W. Lohman. 1941. 32 p., 11 figs., 1 pl.	0.25
W 8	Ground water resources of the valley-fill deposits of Allegheny County, Pennsylvania , by J. H. Adamson et al. 1949. 181 p., 9 figs., 5 pls.	1.85
W 9	Ground water resources of Beaver County, Pennsylvania , by D. W. VanTuyt and N. H. Klein. 1951. 84 p., 11 figs., 1 pl.	1.50
W 10	Ground water for air conditioning at Pittsburgh, Pennsylvania , by D. W. VanTuyt. 1951. 34 p., 9 figs.	0.50
W 11	Ground water resources of Bucks County, Pennsylvania , by D. W. Greenman. 1955. 67 p., 1 fig., 2 pls. including geologic map of Bucks County	3.75
W 12	Borehole geophysical methods for analyzing the specific capacity of aquifers in a multiaquifer well , by G. D. Bennett and E. P. Patten. 1960. 27 p., 8 figs.	0.15
W 13	Ground water resources of the Coastal Plain area of southeastern Pennsylvania , by D. W. Greenman et al. 1961. 375 p., 27 figs., 22 pls.	9.10
W 14	Geology and hydrology of the Stockton Formation in southeastern Pennsylvania , by D. R. Rima, Harold Meisler, and Stanley Longwill. 1962. 111 p., 8 tables, 4 pls. including geologic map (1:24,000)	4.45
W 15	Geology and hydrology of the Neshannock quadrangle, Mercer and Lawrence Counties, Pennsylvania , by L. D. Carswell and G. D. Bennett. 1963. 98 p., 8 figs., 3 tables, 4 pls. including geologic map (1:24,000)	4.00
W 16	Geology and hydrology of the Mercer quadrangle, Mercer, Lawrence, and Butler Counties, Pennsylvania , by C. W. Poth. 1963. 149 p., 24 figs., 6 tables, 5 pls. including geologic map (1:48,000)	4.95
*W 17	Methods of flow measurement in well bores , by E. P. Patten, Jr. and G. D. Bennett. 1963. 28 p., 13 figs., 1 table	*
W 18	Hydrogeology of the carbonate rocks of the Lebanon Valley, Pennsylvania , by Harold Meisler. 1963. 81 p., 18 figs., 3 tables, 3 pls. including hydrogeologic map (1:24,000) ..	3.55
W 19	Application of electrical and radioactive well logging to ground-water hydrology , by E. P. Patten, Jr. and G. D. Bennett. 1963. 60 p., 11 figs.	0.25
W 20	The ground-water observation-well program in Pennsylvania , by C. W. Poth. 1963. 17 p., 8 figs.	0.25
W 21	Hydrology of the New Oxford Formation in Adams and York Counties, Pennsylvania , by P. R. Wood and H. E. Johnston. 1964. 66 p., 10 figs., 1 pl. (geologic map at 1:62,500)	2.15
W 22	Hydrology of the Brunswick Formation in Montgomery and Berks Counties, Pennsylvania , by S. M. Longwill and C. R. Wood. 1965. 59 p., 13 figs., 1 pl. (geologic map at 1:62,500)	1.75
W 23	Hydrology of the New Oxford Formation in Lancaster County, Pennsylvania , by H. E. Johnston (in preparation)	
W 24	Geology and hydrology of the Martinsburg Shale in Dauphin County, Pennsylvania , by L. D. Carswell, J. R. Hollo- well, and L. B. Platt (in preparation)	

SPECIAL BULLETINS (13½ x 18 inches)

SB 1	Oil bearing sands in southwestern Pennsylvania , by L. S. Matteson and D. A. Busch. 1944. 11 p. plus 208 well records, 55 pls.	1.50
SB 2	Oil and gas field farm line maps of the Franklin and Oil City quadrangles, Pennsylvania , by P. A. Dickey and L. S. Matteson. 1945. 18 maps (1" = 2,000 feet)	0.65
SB 3	Oil and gas field property line maps of the Hilliards quadrangle, Pennsylvania , by R. E. Sherrill. 1946. 9 maps (1" = 2,000 feet)	0.60

* Out-of-print.

SB 4	Oil and gas field property line maps of the Titusville quadrangle, Pennsylvania , by P. A. Dickey and Lillian Heeren. 1946. 9 maps (1" = 2,000 feet)	0.60
SB 5	Oil and gas field atlas of the Bradford quadrangle , by Chas. R. Fettke and Virginia Fairall. 1951. 10 maps, 2 tables	1.25
SB 6	Oil and gas field atlas of the Smethport quadrangle , by Chas. R. Fettke and Virginia Fairall. 1951. 10 maps, 2 tables	1.25
SB 7	Oil and gas field atlas of the Butler quadrangle , by Wm. S. Lytle and Lillian Heeren. 1955. 10 maps, 2 tables	1.25
SB 8	Preliminary report on a regional stratigraphic study of Devonian rocks of Pennsylvania , by T. H. Jones and A. S. Cate. 1957. 5 p., 7 pls.	1.75
SB 9	Oil and gas field atlas of the Foxburg quadrangle , by J. M. L. Bergsten and Lillian Heeren. 1961. 26 p., 9 colored maps, 4 pls.	3.00
SB 10	Stratigraphic studies of the Silurian rocks of Pennsylvania, Part 1, Stratigraphic cross sections of Lower Devonian and Silurian rocks in western Pennsylvania and adjacent areas , by A. S. Cate. 1961. 3 p., 1 fig., 5 colored pls.	1.75
SB 11	Stratigraphic studies of the Silurian Rocks of Pennsylvania, Part 2, Subsurface maps of the Silurian rocks of western Pennsylvania and adjacent areas , by A. S. Cate. 1965	2.10

PROGRESS REPORTS

PR 1-121	Mimeographed series of reports, all out of print, most superseded. See G-1 for partial list	*
PR 122	Geology of the oil and gas fields of the Hilliards quadrangle , by R. E. Sherrill and L. S. Matteson. 1939. 25 p., 4 maps, and 238 well records	0.15
*PR 123	Oil mining possibilities in Pennsylvania , by P. A. Dickey. 1939. 31 p., 10 figs.	*
*PR 124	Summit gas pool, Fayette County, Pennsylvania , by Chas. R. Fettke. 1940. 31 p., 1 fig.	*
*PR 125	Music Mountain oil pool and other oil pools in Lafayette Township, McKean County, Pennsylvania , by Chas. R. Fettke. 1941. 34 p., 9 figs.	*
*PR 126	The Upper Devonian and lower Mississippian of southwestern Pennsylvania , by W. M. Laird. 1941. 23 p.,	*
PR 127	Subsurface sections across western Pennsylvania , by Chas. R. Fettke. 1941. 57 p., 1 map	0.50
*PR 128	Manganese minerals in Pennsylvania , by R. M. Foose. 1942. 22 p., 3 figs. (see bull. M27)	*
*PR 129	Electrical well logging in the eastern states , by P. A. Dickey. 1942. 30 p., 20 figs.	*
*PR 130	Anthracite reserves , by G. H. Ashley. 1945. 13 p.	*
*PR 131	Haskell Sand core from the Coryville pool, McKean County, Pennsylvania , by Chas. R. Fettke and W. H. Seifert. 1946. 9 p., 1 fig., (a limited edition for the oil industry)	*
*PR 132	Topographic maps , by R. C. Stephenson. 1949. 20 p., 9 figs.	*
PR 133	Gas in Leidy Township, Clinton County, Pennsylvania , by S. H. Cathcart. 1950. 15 p., 3 figs.	free
*PR 134	Preliminary report, Leidy gas field and adjacent areas, Clinton County, Pennsylvania , by J. R. Ebright and A. I. Ingham. 1951. (replaced by M 34)	*
*PR 135	Oil and gas developments in Pennsylvania in 1950 , by Chas. R. Fettke. 1951. 10 p., 1 pl.	*
PR 136	Preliminary report on certain limestone and dolomites of Berks County, Pennsylvania , by Carlyle Gray. 1951. 85 p., 7 figs., 1 pl.	0.50
*PR 137	Preliminary report, geology and mineral resources of the New Florence quadrangle , by M. N. Shaffner. 1951. (replaced by A 57)	*
PR 138	Geologic structures of the northern plateau region of Pennsylvania , by A. I. Ingham. 1951. (revision of Bull. 108, pl. 2)	free
PR 139	Oil and gas developments in Pennsylvania in 1951 , by Chas. R. Fettke. 1952. 20 p., 4 figs., 2 pls.	free
PR 140	The high calcium limestones of the Annville belt in Berks and Lebanon Counties, Pennsylvania , by Carlyle Gray. 1952. 19 p., 6 figs., 2 pls.	0.50
*PR 141	Preliminary report, geology and mineral resources of the Donegal quadrangle , by M. N. Shaffner. 1952. (replaced by A 48)	*

* Out-of-print.

PR 142	Geologic structure of parts of the Chestnut Ridge and Driftwood anticlines in Clearfield and Elk Counties, Pennsylvania , by R. C. Bolger. 1953. Map with text on back	0.30
PR 143	Oil and gas developments in Pennsylvania in 1952 , by Chas R. Fettke. 1953. 29 p., 4 figs., 3 pls.	0.25
PR 144	Oil and gas developments in Pennsylvania in 1953 , by Chas. R. Fettke. 1954. 15 p., 2 pls.	0.20
PR 145	Occurrence of rock salt in Pennsylvania , by Chas. R. Fettke. 1955. Map with text on back	0.25
PR 146	Ground water resources of the Lansdale area , by D. R. Rima. 1955. 25 p., 4 figs., 7 pls.	0.40
PR 147	Oil and gas developments in Pennsylvania in 1954 , by Chas. R. Fettke and Wm. S. Lytle. 1955. 12 p., 1 fig. ..	free
PR 148	Summary secondary recovery operations in Pennsylvania to January 1, 1954 including petroleum reserves and production by counties , by Wm. S. Lytle. 1955. 23 p., 7 figs.	0.15
*PR 149	Geology and mineral resources of southern Somerset County , by N. K. Flint. 1956. (replaced by C 56a)	*
*PR 150	Oil and gas developments in Pennsylvania in 1955 , by C. R. Fettke and Wm. S. Lytle. 1956. 23 p., 3 figs., 2 pls.	*
*PR 151	Oil and gas developments in Pennsylvania in 1956 , by Wm. S. Lytle. 1957. 33 p., 5 figs., 3 pls.	*
*PR 152	Preliminary report on the sedimentary uranium occurrences in the State of Pennsylvania , by J. F. McCauley. 1957. (replaced by M 43)	*
PR 153	Preliminary report on the chromite occurrence at the Wood Mine, Lancaster County, Pennsylvania , by D. M. Lapham. 1958. 11 p., 2 pls.	free
*PR 154	Oil and gas developments in Pennsylvania in 1957 , by Wm. S. Lytle et al. 1958. 34 p., 4 figs., 5 pls.	*
*PR 155	Oil and gas developments in Pennsylvania in 1958 , by Wm. S. Lytle et al. 1959. 44 p., 4 figs.	*
PR 156	Subsurface Cambro-Ordovician stratigraphy of northwestern Pennsylvania and bordering regions , by W. R. Wagner. 1961. 20 p., 1 fig., 1 pl.	0.30
*PR 157	Oil and gas developments in Pennsylvania in 1959 , by Wm. S. Lytle et al. 1960. 55 p., 5 figs., 6 pls.	*
PR 158	Oil and gas developments in Pennsylvania in 1960 , by Wm. S. Lytle et al. 1961. 50 p., 5 figs., 7 pls.	free
PR 159	Some geological factors affecting the Upper Freeport coal and its quality , by E. F. Koppe. 1961. 5 p.	free
PR 160	Oil and gas developments in Pennsylvania in 1961 , by Wm. S. Lytle et al. 1962. 55 p., 3 figs., 9 pls.	free
PR 161	The Precambrian geology of the Reading 15' quadrangle , by T. V. Buckwalter. 1963. 49 p., 2 pls. including 2-color geologic map (1:24,000)	1.75
*PR 162	Oil and gas developments in the Youngville-Sugar Grove Field of Warren County, Pennsylvania , by W. H. Seifert and W. S. Lytle. 1963. 13 p., 3 figs., 4 tables (replaced by M 53)	*
PR 163	Preliminary report of the oil and gas resources of the Warren 7½' quadrangle, Pennsylvania , by W. S. Lytle and L. A. Heeren. 1963. One sheet containing map, text, and tables35
PR 164	Bedrock geology of the Cedar Run quadrangle, Tioga and Lycoming Counties, Pennsylvania , by G. W. Colton. 1963. One large sheet containing text, columnar section and full-color geologic map (1:24,000)	1.05
PR 165	Oil and gas developments in Pennsylvania in 1962 , by W. S. Lytle and others. 1963. 44 p., 6 figs., 9 tables30
PR 166	Oil and gas developments in Pennsylvania in 1963 , by W. S. Lytle and others. 1964. 47 p., 8 figs., 10 tables ..	0.40
PR 167	Bedrock geology and surface structure of the Slate Run quadrangle, Clinton, Lycoming, and Potter Counties, Pennsylvania , by G. W. Colton. 1965 (in press)	
PR 168	Oil and gas developments in Pennsylvania in 1964 , by W. S. Lytle and others. 1965. 55 p., 10 figs., 13 tables .	0.50
PR 169	Geology of a portion of the Mt. Holly Springs quadrangle, Cumberland and Adams Counties, Pennsylvania , by Jacob Freedman. 1966 (in press)	
PR 170	Geology of a portion of the Everett 15-minute quadrangle, Bedford County, Pennsylvania , by R. R. Knowles. 1966 (in press)	
PR 171	Hydrology of the carbonate rocks of the Lancaster 15-minute quadrangle, Pennsylvania , by Harold Meisler and A. E. Becher (in preparation)	

* Out-of-print.

INFORMATION CIRCULARS

*IC 1	Superseded by Bull. M 36	*
*IC 2	Industrial minerals in Pennsylvania in 1951 , by R. C. Stephenson, 6 p.	*
IC 3	Not distributed—see PR143 and 144.	
IC 4	Elevations in Pennsylvania , by Anne C. Sangree. 1954. 19 p.	free
IC 5	Relation of stratigraphy and structure to uranium occurrences near Mauch Chunk, Pennsylvania , by J. L. Dyson. 1955. 11 p., 1 fig.	free
*IC 6	The mineral industry of Pennsylvania in 1952 , by R. H. Mote and Alvin Kaufman. 1955. 32 p.	*
IC 7	The ground water program for Pennsylvania, 1956 , 14 p.	free
IC 8	The mineral industry of Pennsylvania in 1953 , by Alvin Kaufman. 1956. 26 p.	free
IC 9	The mineral industry of Pennsylvania in 1954 , by R. D. Thomson. 1957. 34 p.	free
IC 10	Ground Water . 1958. Superseded by ES3.	
IC 11	The mineral industry of Pennsylvania in 1955 , by R. D. Thomson. 1958. 40 p.	free
IC 12	The mineral industry of Pennsylvania in 1956 , by R. D. Thomson. 1958. 42 p.	free
IC 13	Corundum mining in the Piedmont Province of Pennsylvania , by Nancy C. Pearre. 1958; 2nd printing, 1964. 11 p., 1 fig.	free
IC 14	The history of chromite mining in Pennsylvania and Maryland , by Nancy C. Pearre and Allen Heyl. 1959; 2nd printing, 1964. 23 p., 9 figs.	free
IC 15	The mineral industry of Pennsylvania in 1957 , by R. D. Thomson and Mary E. Otte. 1959. 39 p.	free
IC 16	Catalogue of deep well samples and geophysical logs to January 1, 1959 , by W. R. Wagner. 1959. 84 p., 1 fig., 1 pl.	0.35
IC 17	Geology of a barite occurrence, Fulton County, Pennsylvania , by A. A. Socolow. 1959. 4 p.	free
IC 18	Geologic interpretation of aeromagnetic map of the Valley Forge quadrangle , by A. A. Socolow. 1959	free
IC 19	Geologic interpretation of aeromagnetic map of the Norristown quadrangle , by A. A. Socolow. 1959	free
IC 20	Geologic interpretation of aeromagnetic map of the Malvern quadrangle , by A. A. Socolow. 1959	free
IC 21	Geologic interpretation of aeromagnetic map of the West Chester quadrangle , by A. A. Socolow. 1959	free
IC 22	Geologic interpretation of aeromagnetic map of the Media quadrangle , by A. A. Socolow. 1959.	free
IC 23	Geologic interpretation of aeromagnetic map of the East Greenville quadrangle , by A. A. Socolow. 1959	free
IC 24	Geologic interpretation of aeromagnetic map of the Mill-ford Square quadrangle , by A. A. Socolow. 1959	free
IC 25	Geologic interpretation of aeromagnetic map of the Sassamansville quadrangle , by A. A. Socolow. 1959	free
IC 26	Geologic interpretation of aeromagnetic map of the Perkiomenville quadrangle , by A. A. Socolow. 1959	free
IC 27	Geologic interpretation of aeromagnetic map of the Phoenixville quadrangle , by A. A. Socolow. 1959	free
IC 28	Geologic interpretation of aeromagnetic map of the Allentown quadrangle , by A. A. Socolow. 1959	free
IC 29	Geologic interpretation of aeromagnetic map of the Quakertown quadrangle , by A. A. Socolow. 1959	free
IC 30	Geologic interpretation of aeromagnetic map of the Buckingham, Lambertville, and Stockton quadrangles , by A. A. Socolow. 1959	free
IC 31	Geologic interpretation of aeromagnetic map of the Safe Harbor quadrangle , by A. A. Socolow. 1959	free
IC 32	Geologic interpretation of aeromagnetic map of the Conestoga quadrangle , by A. A. Socolow. 1959	free
IC 33	Geologic interpretation of aeromagnetic map of the Quarryville quadrangle , by A. A. Socolow. 1959	free
IC 34	Geologic interpretation of aeromagnetic map of the Morgantown quadrangle , by A. A. Socolow. 1959	free
IC 35	Geologic interpretation of aeromagnetic map of the Elverston quadrangle , by A. A. Socolow. 1959	free
IC 36	The mineral industry of Pennsylvania in 1958 , by R. D. Thomson et al. 1959. 47 p.	free
IC 37	Geologic interpretation of aeromagnetic maps, Pottstown, Wagontown, Downingtown, Coatesville, Unionville, Honeybrook, and Parkesburg quadrangles , by A. A. Socolow. 1960	free

* Out-of-print.

IC 38	Geologic interpretations of aeromagnetic maps, Temple, Fleetwood, Manatawny, Reading, Birdsboro, and Boyertown quadrangles , by A. A. Socolow. 1960	free
IC 39	Geologic interpretation of aeromagnetic maps, Easton and Riegelsville quadrangles , by A. A. Socolow. 1960	free
IC 40	Geologic interpretations of aeromagnetic maps, Hatboro and Langhorne quadrangles , by A. A. Socolow. 1960	free
IC 41	Geologic interpretation of certain aeromagnetic maps of Lancaster, Berks, and Lebanon Counties , by A. A. Socolow. 1960	free
IC 42	Geologic interpretation of certain aeromagnetic maps of Bucks, Montgomery, and Lehigh Counties , by A. A. Socolow. 1960	free
*IC 43	The mineral industry of Pennsylvania in 1959 , by R. D. Thomson et al. 1961. 48 p.	free
IC 44	Geologic interpretation of aeromagnetic map of Alburdis quadrangle, Lehigh and Berks Counties , by A. A. Socolow. 1961. 5 p.	free
IC 45	Geologic interpretation of aeromagnetic maps of Hummelstown, Palmyra, and Bernville quadrangles , by A. A. Socolow. 1961. 5 p.	free
IC 46	Geologic interpretation of aeromagnetic maps of southern York County , by A. A. Socolow. 1961. 16 p.	free
IC 47	Assigned but not prepared.	
IC 48	Assigned but not prepared.	
IC 49	The mineral industry of Pennsylvania in 1960 , by R. D. Thomson et al. 1962. 45 p.	free
IC 50	The mineral industry of Pennsylvania in 1961 , by R. D. Thomson et al. 1963. 42 p.	free
IC 51	The mineral industry of Pennsylvania in 1962 , by C. C. Yeloushan et al. 1964. 39 p., 1 fig., 11 tables	free
IC 52	Interpretation of an aeromagnetic survey in western Pennsylvania and parts of eastern Ohio, northern West Virginia, and western Maryland , by M. E. Beck, Jr. and R. E. Mattick. 1964. 10 p., 2 figs.	free
IC 53	The mineral industry of Pennsylvania in 1963 , by J. R. Kerr. 1965. 42 p., 1 fig., 13 tables	free
IC 54	Directory of the mineral industry in Pennsylvania , by B. J. O'Neill, Jr. 1965. 85 p.	0.60

WELL-SAMPLE RECORDS

#1-38	Superseded by Bulletin M 40.	
#39	Goodwill-Curley No. 1 well, Pymatuning Township, Erie County , by W. R. Wagner. 1958. 48 p.	free
#40	Emma McKnight No. 1 well, Pymatuning Township, Mercer County , by W. R. Wagner. 1958. 33 p.	free
#41	Albert No. 1 well, Adams Township, Snyder County , by W. R. Wagner. 1958. 23 p.	free
#42-55	Superseded by Bulletin M 40.	
#56	Jesse B. Miller No. 1 well, Napier Township, Bedford County , by Chas. R. Fettke. 1960. 38 p.	0.15

MAPS

#1	Geologic map of Pennsylvania . 1960. Scale 1:250,000 (1" = 4 miles). Supersedes Geologic map of Pennsylvania. 1932. Scale 1:380,160	3.75
#2	Coal fields of Pennsylvania . 1929. Scale 1:380,160 (1" = 6 miles)	0.50
#3	Oil and gas fields of Pennsylvania and oil and gas pipelines . 1964. Fields map scale 1" = 5 miles; pipelines map scale 1" = 10 miles	1.70
	Edition of 1953, same as above	*
	Edition of 1932, Oil and gas fields only, scale 1:380,160	0.25
*#4	Undrilled areas of Sheffield quadrangle , by L. S. Matteson. 1946. Scale 1" = 1 mile	*
*#5	Undrilled areas of southern Kinzua and northern Kane quadrangles , by Chas. F. Fettke, 1946. Scale 1" = 1 mile	*
*#6	Farm line map of Warren quadrangles, showing undrilled areas , by S. H. Cathcart and W. H. Seifert. 1947. Scale 1:31,680 (2" = 1 mile)	*
#7	8½" x 11" Geologic map of Pennsylvania (Color) . 1962	free
*#8	Topographic map of Bucks County , scale 1:62,500 (1" = 1 mile)	*
#9	Subsurface structure of the plateau region of north-central and western Pennsylvania on top of the Oriskany Formation , by A. S. Cate. 1962. 1 large map, scale 1" = approx. 4 miles65

* Out-of-print.

#10	8½" x 11" Oil and gas fields map of Pennsylvania (Color)	free
#11	8½" x 11" Coal fields of Pennsylvania map (Color)	free
#12	Map of the Mercer clay and adjacent units in Clearfield, Centre, and Clinton Counties, Pennsylvania. 1964. Scale 1" = 1.5 miles	1.55
#13	8½" x 11" Physiographic provinces map of Pennsylvania (Color)	free

PENNSYLVANIA TOPOGRAPHIC AND GEOLOGIC

SURVEY COMMISSION

(Third Survey)

SELECTED PUBLICATIONS (Economic reports)

* 1	Geology of the oil and gas fields of the Sewickley quadrangle, by M. J. Munn. 1910. 170 p., 10 pls.	*
* 2	Geologic map of southwestern Pennsylvania. 1914. 29 p., 10 pls.	*
* 3	Geology of the oil and gas fields of the Clarion quadrangle, by M. J. Munn. 1910. 112 p., 1 fig., 9 pls.	*
* 4	Mineral pigments of Pennsylvania, by B. L. Miller. 1911. 102 p., 9 figs., 29 pls.	*
* 5	Talc and serpentines of eastern Pennsylvania and cement industries of Lehigh and Northampton Counties, by F. B. Peck. 1911. 66 p., 9 figs., 17 pls.	*
* 6	Graphite deposits of Pennsylvania, by B. L. Miller. 1912. 148 p., 17 pls., 1 map	*
* 7	Engineering data, by R. R. Hice. 1913. 450 p., 3 pls.	*
* 8	Mineral production of Pennsylvania, by R. R. Hice. 1911. 84 p.	*
* 9	Minerals of Pennsylvania, by A. P. Brown and Frederick Ehrenfeld. 1913. 160 p., 1 fig., 10 pls.	*
*10	Broad-Top coal field, by J. H. Gardner. 1913. 82 p., 1 fig., 32 pls.	*
*11	Mineral production of Pennsylvania, by R. R. Hice. 1913. 107 p.	*
*12	Glass manufacture and the glass sand industry, by Chas. R. Fettke. 1919. 278 p., 108 pls.	*

DEPARTMENT OF INTERNAL AFFAIRS

SELECTED PUBLICATIONS

Pennsylvania's mineral heritage. Bureau of Statistics and Topographic and Geologic Survey, and the Pennsylvania State University, School of Mineral Industries. 1944, 148 p., 29 figs.	0.50
Historical Statistics of Pennsylvania's mineral industries, 1759-1955. Bulletin of the Mineral Industries Experiment Station, No. 69, 1957. 93 p.	0.70

UNITED STATES GEOLOGICAL SURVEY

This is a list of the more important reports dealing with Pennsylvania which have been published by the U. S. Geological Survey. For additional information see **List of Publications** available from the U. S. Geological Survey, Washington, D. C. 20242.

TO ASSURE PROMPT DELIVERY FOLLOW ORDERING INSTRUCTIONS CAREFULLY

FOLIOS—U. S. Geological Survey

Order from U. S. Geological Survey at indicated cost

* 82	Masontown-Uniontown , by M. R. Campbell. 1902	*
* 92	Gaines, Pa.-N. Y. , by M. L. Fuller. 1903	*
* 93	Elkland-Tioga , by M. L. Fuller and W. C. Alden. 1903 ..	*
* 94	Brownsville-Connellsville , by M. R. Campbell. 1903	*
* 102	Indiana , by G. B. Richardson. 1904	*
* 110	Latrobe , by M. R. Campbell. 1904	*
* 115	Kittanning , by Charles Butts. 1904	*
* 121	Waynesburg , by R. W. Stone. 1905	*
* 123	Elders Ridge , by R. W. Stone. 1905	*
* 125	Rural Valley , by Charles Butts. 1905	*
* 133	Ebensburg , by Charles Butts. 1905	*
* 134	Beaver , by L. H. Woolsey. 1905	*
* 144	Amity , by F. G. Clapp. 1907	*
* 146	Rogersville , by F. G. Clapp. 1907	*
* 160	Accident-Grantsville, Md.-Pa.-W. Va. , by G. C. Martin. 1909	*
* 162	Philadelphia, Pa.-N. J.-Del. , by F. Bascom, Clark, Darton, Kummel et al. 1909	*
* 167	Trenton, N. J.-Pa. , by F. Bascom, Darton, Kummel et al. 1909	*
* 170	Mercersburg-Chambersburg , by George W. Stose. 1909 ..	*
* 172	Warren, Pa.-N. Y. , by Charles Butts. 1910	*
* 174	Johnstown , by W. C. Phalen. 1910	*
* 176	Sewickley , by M. J. Munn. 1911	*
* 177	Burgettstown-Carnegie , by E. Shaw and M. J. Munn. 1911 ..	*
* 178	Foxburg-Clarion , by E. W. Shaw, E. F. Lines and M. J. Munn. 1911	*
* 179	Pawpaw-Hancock, Md.-W. Va.-Pa. , by G. W. Stose and C. K. Swartz. 1911	*
* 180	Claysville , by M. J. Munn. 1911	*
* 189	Barnesboro-Patton , by M. R. Campbell, F. G. Clapp and Charles Butts. 1913	*
* 211	Elkton-Wilmington, Md.-Del.-N. J.-Pa. , by F. Bascom and B. L. Miller. 1920	*
* 223	Coatesville-West Chester, Pa.-Del. , by F. Bascom and G. W. Stose. 1932	*
* 224	Somerset-Windber , by G. B. Richardson. 1934	*
* 225	Fairfield-Gettysburg , by G. W. Stose and F. Bascom. 1929 ..	*
227	Holidaysburg-Huntingdon , by Charles Butts. 1946	2.00

GEOLOGIC QUADRANGLE REPORTS—U. S. Geological Survey

Order from U. S. Geological Survey at indicated cost

GQ- 28	Carlisle quadrangle , by G. W. Stose. 1953	1.00
GQ-283	Geology of the Washington West quadrangle, Pa. , by H. L. Berryhill, Jr. and V. E. Swanson. 1964 (1:24,000) 1 sheet—31 x 34 inches	1.00
GQ-296	Geology of the Amity quadrangle, Pa. , by H. L. Berryhill, Jr. 1964. (1:24,000) 1 sheet—31 x 33 inches	1.00
GQ-333	Geology of the Ellsworth quadrangle, Pa. , by H. L. Berryhill, Jr. and S. P. Schweinfurth. 1964. (1:24,000) 1 sheet—31 x 33 inches	1.00
GQ-334	Geology of the Washington East quadrangle, Pa. , by V. E. Swanson and H. L. Berryhill, Jr. 1964. (1:24,000) 1 sheet—31 x 34 inches	1.00
GQ-341	Pre-Quaternary geology of the Trenton East quadrangle, New Jersey-Pennsylvania , by J. P. Owens and J. P. Minard. 1964. (1:24,000) 1 sheet—29 x 33 inches	1.00
GQ-342	Pre-Quaternary geology of the Bristol quadrangle, New Jersey-Pennsylvania , by J. P. Owens and J. P. Minard. 1964. (1:24,000) 1 sheet—29 x 34 1/2 inches	1.00

* Out-of-print.

COAL INVESTIGATIONS-MAPS—U. S. Geological Survey

Order from U. S. Geological Survey at indicated cost

C 3	Geology of anthracite in the west-central part of the Mount Carmel quadrangle, Pa., by H. E. Rothrock et al. 1950. 3 sheets, scale 1 inch = 500 feet	1.50
C 7	Geology of anthracite in southwestern part of the Mount Carmel quadrangle, Pa., by H. E. Rothrock et al. 1951. 3 sheets, scale 1 inch = 500 feet	1.50
C 10	Geology of anthracite in east-central part of the Mount Carmel quadrangle, Pa., by H. E. Rothrock et al. 1951. 3 sheets, scale 1 inch = 500 feet	1.50
C 12	Geology of anthracite in the southeastern part of Mount Carmel quadrangle, Pa., by H. E. Rothrock et al. 1953. Scale 1:6,000. 3 sheets	1.50
C 13	Geology of anthracite in the western part of the Ashland quadrangle, Pa., by B. R. Haley et al. 1953. Scale 1:12,000. 2 sheets	1.50
C 14	Geology of anthracite in the eastern part of the Ashland quadrangle, Pa., by B. R. Haley et al. 1954. Scale 1:12,000. 2 sheets	1.00
C 19	Geology of anthracite in the eastern part of the Shenandoah quadrangle, Pa., by T. M. Kehn and H. C. Wagner. 1956. 2 sheets	1.00
C 21	Geology of anthracite in the western part of the Shenandoah quadrangle, Pa., by W. Danilchik et al. 1955. Scale 1:12,000. 2 sheets	1.00
C 25	Geology of anthracite in the western part of the Delano quadrangle, Pa., by J. A. Maxwell and H. E. Rothrock. 1955	1.00
C 43	Geology of the northern half of the Minersville quadrangle and a part of the northern half of the Tremont quadrangle, Schuylkill County, Pa., by G. H. Wood, et al. 1958	1.50
C 46	Geology of Anthracite in the eastern part of Shamokin quadrangle, Northumberland County, Pennsylvania, by Walter Danilchik and others. 1962. 2 sheets including geologic map (1:12,000)	1.25
C 47	Geology of anthracite in the western part of the Shamokin quadrangle, Northumberland County, Pennsylvania, by H. H. Arndt and others. 1963. 2 sheets including geologic map (1:12,000)	1.25
C 48	Geology of anthracite in the southern part of the Trevorton quadrangle, Northumberland County, Pennsylvania, by H. H. Arndt and others. 1963. 2 sheets including geologic map (1:12,000)	1.25

OIL AND GAS INVESTIGATIONS-PRELIMINARY MAPS—U. S. G. S.

Order from U. S. Geological Survey at indicated cost

* 49	Map of the Berea and Murraysville sands of northern Ohio, western Pennsylvania, and northernmost West Virginia, by D. F. Demerest, 1946. Scale 1 inch = 3 miles	*
* 58	Distribution of several types of Berea sand in West Virginia, eastern Ohio and western Pennsylvania, by G. Rittenhouse. 1946. Scale 1 inch = 16 miles	*
* 89	Map of Berea and Murraysville sands of southeastern Ohio, northern West Virginia and southwestern Pennsylvania, by J. F. Pepper et al. 1948. Scale 1 inch = 3 miles. (Revision of May 29)	*
* 100	Early Silurian rocks of the northern Appalachian Basin, by G. Rittenhouse. 1949. Scale 1 inch = approx. 40 miles	*

OIL AND GAS INVESTIGATIONS-PRELIMINARY CHARTS—U. S. G. S.

Order from U. S. Geological Survey at indicated cost

21	The stratigraphic relationship of the Berea, Corry and Cussewago sandstones in northeastern Ohio and northwestern Pennsylvania, by W. deWitt, Jr., 1946	0.40
----	---	------

CIRCULARS—U. S. Geological Survey

Free from the U. S. Geological Survey

* 104	Water resources of southeastern Bucks County, Pa., by J. B. Graham et al. 1951. 21 p., 12 figs., 1 pl.	*
* 174	Water resources of the Erie shore region in Pennsylvania, by J. W. Mangan et al. 1952. 36 p., 23 figs.	*
* 190	Index of water resources records in the Delaware River Basin to September 30, 1951, by Pennsylvania Water Resources Council. 1952. 20 p.	*

- * 257 **The use of water in Pennsylvania, 1951**, by J. W. Mangan and J. B. Graham. 1953. 11 p., 5 figs. *
- * 315 **Water resources of the Pittsburgh area, Pa.**, by Max Noecker et al. 1954. 54 p., 37 figs., 2 pls. *
- 350 **Occurrences of uranium in Carbon County, Pa.**, by Harry Klemic and R. C. Baker. 1954. 8 p., 2 figs. free

BULLETINS—U. S. Geological Survey

Order from the Superintendent of Documents, Washington, D. C. 20402, at indicated cost

- * 256 **Mineral resources of the Elders Ridge quadrangle, Pennsylvania**, by R. W. Stone. 1905. 86 pp., 12 pls. *
- * 279 **Economic geology of the Kittanning and Rural Valley quadrangles, Pennsylvania**, by Charles Butts. 1906. 198 p., 1 pl. *
- * 285 **Clearfield coal field: contributions to economic geology**, by G. H. Ashley. 1905. p. 271-275 *
- * 286 **Economic geology of the Beaver quadrangle, Pennsylvania**, by L. H. Woolsey. 1906. 132 p., 8 pls. *
- * 300 **Economic geology of the Amity quadrangle, Pennsylvania**, by F. G. Clapp. 1907. 154 p., 8 pls. *
- * 304 **Oil and gas fields of Greene County, Pennsylvania**, by R. W. Stone and F. G. Clapp. 1907. 110 p., 3 pls. *
- * 318 **Geology of the oil and gas fields in Steubenville, Burgettstown and Claysville quadrangles, Ohio, West Virginia, and Pennsylvania**, by W. T. Griswold and M. J. Munn. 1907. 196 p., 13 pls. *
- * 359 **Magnetite deposits of the Cornwall type in Pennsylvania**, by A. C. Spencer. 1908. 102 p., 20 pls. *
- * 447 **Mineral resources of Johnstown, Pennsylvania, and vicinity**, by W. C. Phalen and Lawrence Martin. 1911. 142 p., 7 pls. *
- * 454 **Coal, oil and gas of the Foxburg quadrangle, Pennsylvania**, by E. W. Shaw and M. J. Munn. 1911. 85 p., 10 pls. *
- * 455 **Copper deposits of the Appalachian States**, by W. H. Weed. 1911. 166 p., 5 pls. *
- * 456 **Oil and gas fields of the Carnegie quadrangle, Pennsylvania**, by M. J. Munn. 1911. 99 p., 5 pls. *
- * 508 **The Onondaga fauna of the Allegheny region**, by E. M. Kindle. 1912. 144 p., 13 pls. *
- * 531D **Geological structure of the Punxsutawney, Curwensville, Houtzdale, Barnesboro, and Patton quadrangles, central Pennsylvania**, by G. H. Ashley and M. R. Campbell. 1913. 23 p., 1 fig., 2 pls. *
- * 580 **Carnotite near Mauch Chunk, Pennsylvania: Contributions to economic geology**, by E. T. Wherry. 1913. p. 141-151 *
- * 624 **Useful minerals of the United States**, by F. C. Schrader, R. W. Stone, and Samuel Sanford. 1916. 412 p. Pennsylvania minerals. p. 259-268 *
- * 659 **Cannel-coal in the United States**, by G. H. Ashley. 1918. 127 p., 8 pls. *
- * 725 **Chrome ores of southeastern Pennsylvania, and Maryland: Contributions to economic geology**, by E. B. Knopf. 1922. p. 361-382 *
- * 799 **Geology of the McCall's Ferry-Quarryville district, Pennsylvania**, by E. B. Knopf and A. I. Jonas. 1929. 156 p., 8 pls. *
- * 817 **Boundaries, areas, geographic centers, and altitudes of the United States . . .**, by E. M. Douglas. Second Edition 1930. Pennsylvania, p. 118-124 *
- * 828 **Geology and mineral resources of the Quakertown-Doylestown district, Pennsylvania and New Jersey**, by Bascom, Wheery, Stose, and Jonas. 1931. 62 p., 3 figs., 4 pls. *
- * 829 **Geology and coal, oil, and gas resources of the New Kensington quadrangle, Pennsylvania**, by G. B. Richardson. 1932. 102 p., 6 figs., 9 pls. *
- * 840 **Geology and mineral resources of the Middletown quadrangle, Pennsylvania**, by G. W. Stose and Anna I. Jonas. 1933. 86 p., 16 figs., 15 pls. *
- * 855 **Geology and mineral resources of the Bellefonte quadrangle, Pennsylvania**, by Charles Butts and E. S. Moore. 1936. 111 p., 2 figs., 12 pls. *
- * 873 **Geology and mineral resources of the Butler and Zelienople quadrangles, Pennsylvania**, by G. B. Richardson. 1936. 93 p., 10 figs., 8 pls. *
- * 891 **Geology and mineral resources of the Honeybrook and Phoenixville quadrangles, Pennsylvania**, by F. Bascom and G. W. Stose. 1938. 145 p., 20 figs., 11 pls. *

* Out-of-print.

* 920	Pre-Cambrian geology and mineral resources of the Delaware Water Gap and Easton quadrangles, N. J.-Pa., by W. S. Bayley. 1941. 98 p., 4 figs., 5 pls.	*
* 969A	Diamond-drill exploration of the Dillsburg magnetite deposits, York County, Pa., by P. E. Hotz, 1950. 27 p., 4 figs., 10 pls.	*
995A	Constitution diagrams of Pennsylvania anthracite, by H. C. Wagner. 1953. 18 p., 3 figs., 7 pls.	0.65
* 995D	Geologic investigations of the Boyertown magnetite deposits in Penna., by H. E. Hawkes, Helmuth Wedow and J. R. Balsley. 1953. p. i-iii, 135-149, figs. 11-12, pls. 16-20	*
1082E	Strategic graphite, a survey, by E. N. Cameron and P. L. Weis. 1960. 321 p., 20 figs., 4 pl.	1.25
1082K	Chromite and other mineral deposits in serpentine rocks of the Piedmont upland, Maryland, Pennsylvania, and Delaware, by N. C. Pearre and A. V. Heyl, Jr. 1960. 126 p., 6 figs., 8 pls.	2.25
1112-F	Geology of rocks of Pennsylvania age in the southern half of the Tremont quadrangle, Schuylkill County, Pennsylvania, by G. H. Wood, Jr. and others. 1962. p. 181-150	1.50
1121B	Illinoian outwash in southeastern Pennsylvania, by W. N. Lockwood and Harold Meisler. 1960. 9 p., 5 figs.	0.15
1138	Geology and uranium occurrences of the northern half of the Lehigh, Pa., quadrangle and adjoining areas, by Harry Klemic and others. 1963. 97 p., 2 figs., 2 pls.	1.25
1143A	Coal resources of Beaver County, Pa., by E. D. Patterson. 1963. 33 p., 1 fig., 5 pls.	1.75
1143B	Coal resources of Lawrence County, Pa., by J. A. Van Lieu and E. D. Patterson. 1964. 33 p., 6 figs., 5 pls.	1.75
1194L	Carbonate rocks of Cambrian and Ordovician age, Northampton and Bucks Counties, eastern Pennsylvania and Warren and Hunterdon Counties, western New Jersey, by A. A. Drake, Jr. 1965. 7 p., 1 fig.	0.10

PROFESSIONAL PAPERS—U. S. Geological Survey

Order from the Superintendent of Documents, Washington, D. C. 20402, at indicated cost

* 150-E	The Pocono fauna of the Broad-Top coal field, Pennsylvania, by G. H. Girty. 1927. p. 111-127, pls. 22-23 ..	*
* 193-C	Some Linguloid shells from the late Devonian and early Carboniferous rocks of Pennsylvania and Ohio, by G. H. Girty. 1939. p. i-ii, 47-67, 1 pl.	*
* 193-D	Some structural features of the northern anthracite coal basin, Pennsylvania, by N. H. Darton. 1940. p. i-iii, 69-81, pls. 10-19	*
* 204	Geology of the Hanover-York district, Pennsylvania, by Anna Jonas Stose and Geo. W. Stose. 1944. 84 p., 29 figs., 18 pls.	*
* 210-B	A Pennsylvania florule from the Forkston coal in the Dutch Mountain outlier, northeastern Pennsylvania, by Chas. B. Read. 1946. 11 p., 1 fig., 2 pls.	*
* 259	Geology of the Bedford shale and Berea sandstone in the Appalachian basin, by J. F. Pepper, W. DeWitt, Jr., and D. E. Demerest. 1954. 111 p., 61 figs., 14 pls.	*
* 263	Floras of the Pocono formation and Price sandstone in parts of Penna., Md., W. Va., and Va., by C. B. Read. 1955. 32 p., 1 fig., 20 pls.	*
* 271	Natural channel of Brandywine Creek, Penna., by M. G. Wolman. 1955. 56 p., 39 figs.	*
282-F	Drainage basins, channels, and flow characteristics of selected streams in central Pennsylvania, by L. M. Brush, Jr. 1961. 36 p. 22 figs.	1.00
288	Surficial geology and geomorphology of Potter County, Pa., by C. S. Denny. 1956. 72 p., 30 figs., 8 pls.	1.75
379	Surficial geology and soils of the Elmira-WilliamSPORT region, New York and Pennsylvania, by C. S. Denny, W. H. Lyford, and J. C. Goodlet. 1963. 60 p. 20 figs., 6 pls.	2.50
381	Water resources of the Delaware River basin, by G. G. Parker and others. 1964. 200 p., 75 figs., 12 pls.	6.25
473-B	Field Investigation of mine waters of the northern Anthracite field, Pa., by Ivan Barnes and others. 1964. 8 p., 3 figs.	0.15

WATER SUPPLY PAPERS—U. S. Geological Survey

Order from the Superintendent of Documents, Washington, D. C. 20402, at indicated cost

* 106	Water resources of the Philadelphia district, by Florence Bascom. 1904. 75 p., 4 pls.	*
-------	---	---

* Out-of-print.

* 108	Quality of water in the Susquehanna River drainage basin, by M. O. Leighton, with an introductory chapter on physiographic features, by G. B. Hollister. 1904. 27 p., 4 pls.	*
* 109	Hydrography of the Susquehanna River drainage basin, by J. C. Hoyt and R. H. Anderson. 1905. 215 p., 29 pls. . .	*
* 110	Contributions to the hydrology of eastern United States. 1904. M. L. Fuller, in charge. 1905. 211 p., 5 pls. Contains discussions of the water resources of the Chambersburg, Mercersburg, Curwensville, Patton, Ebensburg, Barnesboro, Elders Ridge, and Waynesburg quadrangle, by various authors	*
1539H	Ground-water resources of Olmsted Air Force Base, Middletown, Pa., by Harold Meisler and S. M. Longwill. 1961. 34 p., 19 figs.	0.20
1586-C	Observations of tidal flow in the Delaware River, by E. G. Miller. 1962. p. C1-C26	0.20
1619-W	Chemical quality of surface waters in Pennsylvania, by C. N. Durfor and P. W. Anderson. 1963. 50 p.	0.25
1779-B	Variations in the chemical character of the Susquehanna River at Harrisburg, Pa., by P. W. Anderson. 1963. p. B1-B17	0.15
1779-C	Chemical quality of surface water in the West Branch, Susquehanna River basin, Pa., by E. F. McCarren. 1964. p. C1-C40	0.55
1809-O	Delaware River water quality, Bristol to Marcus Hook, Pa., August 1949 to December 1963, by W. B. Keighton. 1965. p. O1-O57	0.25

HYDROLOGIC INVESTIGATIONS ATLAS

Order from U. S. Geological Survey at indicated cost

HA-57	Floods at Harrisburg, Pennsylvania. 1962. Map shows area inundated by flood of March 1936. (1:48,000) . .	0.75
HA-198	Water resources of the Appalachian region, Pennsylvania to Alabama, by W. J. Schneider and others. 1965. 11 sheets—23 x 30 inches	3.25

GEOPHYSICAL INVESTIGATIONS—U. S. Geological Survey

Order from U. S. Geological Survey at indicated cost

GP 200 to 210, 213 to 245, and 254 to 287. Aeromagnetic maps of southeastern Pennsylvania, by R. W. Bromery and others. 1959-1961. All maps are at a scale of 1:24,000 with a contour interval of 50 gammas, unless otherwise noted. Quadrangles covered are listed below and are shown on the key map in center of this list. When ordering, request aeromagnetic map and give GP number as well as quadrangle name.		
GP 200	Valley Forge quadrangle	0.50
GP 201	Norristown quadrangle	0.50
GP 202	Malvern quadrangle	0.50
GP 203	West Chester quadrangle	0.50
GP 204	Media quadrangle	0.50
GP 205	East Greenville quadrangle, contour interval 50 and 250 gammas	0.50
GP 206	Milford Square quadrangle	0.50
GP 207	Sassamansville quadrangle	0.50
GP 208	Perkiomenville quadrangle	0.50
GP 209	Phoenixville quadrangle	0.50
GP 210	Collegeville quadrangle, contour interval 25 gammas . .	0.50
GP 213	Allentown quadrangle, contour interval 50 and 250 gammas	0.75
GP 214	Quakertown quadrangle	0.50
GP 215	Buckingham quadrangle	0.50
GP 216	Parts of the Lambertville, N. J. and Stockton, Pa. quadrangles	0.50
GP 217	Safe Harbor quadrangle	0.50
GP 218	Conestoga quadrangle	0.50
GP 219	Quarryville quadrangle	0.50
GP 220	Morgantown quadrangle	0.50
GP 221	Elverson quadrangle	0.50
GP 222	Pottstown quadrangle	0.50
GP 223	Wagontown quadrangle	0.50
GP 224	Downingtown quadrangle	0.50
GP 225	Coatesville quadrangle	0.50

* Out-of-print.

GP 226	Unionville quadrangle	0.50
GP 227	Temple quadrangle	0.50
GP 228	Fleetwood quadrangle	0.50
GP 229	Manatawny quadrangle	0.50
GP 230	Reading quadrangle	0.50
GP 231	Birdsboro quadrangle	0.50
GP 232	Boyertown quadrangle	0.50
GP 233	Honey Brook quadrangle	0.50
GP 234	Parkesburg quadrangle	0.50
GP 235	Easton quadrangle	0.50
GP 236	Riegelsville quadrangle	0.50
GP 237	Hatboro quadrangle	0.50
GP 238	Langhorne quadrangle	0.50
GP 239	Womelsdorf quadrangle	0.50
GP 240	Sinking Spring quadrangle	0.50
GP 241	Ephrata quadrangle	0.50
GP 242	Terre Hill quadrangle	0.50
GP 243	Leola quadrangle	0.50
GP 244	New Holland quadrangle	0.50
GP 245	Gap quadrangle	0.50
GP 254	Lebanon quadrangle	0.50
GP 255	Richland quadrangle, contour interval 25 gammas	0.50
GP 256	Manheim quadrangle, contour interval 25 gammas	0.50
GP 257	Lititz quadrangle, contour interval 25 gammas	0.50
GP 258	Columbia East quadrangle, contour interval 25 gammas	0.50
GP 259	Lancaster quadrangle, contour interval 25 gammas	0.50
GP 260	Bedminster quadrangle, contour interval 25 gammas	0.50
GP 261	Lumberville quadrangle, contour interval 25 gammas	0.50
GP 262	Telford quadrangle, contour interval 25 gammas	0.50
GP 263	Doylestown quadrangle, contour interval 25 gammas	0.50
GP 264	Lansdale quadrangle, contour interval 25 gammas	0.50
GP 265	Ambler quadrangle, contour interval 25 gammas	0.50
GP 266	Alburtis quadrangle	0.75
GP 267	Hummelstown quadrangle	0.50
GP 268	Palmyra quadrangle	0.50
GP 269	Middletown quadrangle	0.50
GP 270	York quadrangle	0.50
GP 271	Red Lion quadrangle	0.50
GP 272	Glen Rock and part of the New Freedom quadrangles	0.50
GP 273	Bernville quadrangle	0.50
GP 274	Mechanicsburg quadrangle	0.50
GP 275	New Cumberland quadrangle	0.75
GP 276	Mount Holly Springs quadrangle	0.50
GP 277	Dillsburg quadrangle	0.50
GP 278	Arendtsville quadrangle	0.50
GP 279	Biglerville quadrangle	0.50
GP 280	Hampton quadrangle	0.50
GP 281	Abbottstown quadrangle	0.50
GP 282	West York quadrangle	0.50
GP 283	Fairfield and part of the Emmitsburg quadrangles	0.50
GP 284	Gettysburg and part of the Taneytown quadrangles	0.50
GP 285	McSherrystown and part of the Littlestown quadrangles	0.50
GP 286	Hanover and part of the Manchester quadrangles	0.50
GP 287	Seven Valleys and part of the Lineboro quadrangle	0.50
GP 445	Aeromagnetic map of western Pennsylvania, and parts of eastern Ohio, northern West Virginia, and western Maryland, by Peter Popenoe and others. 1964. (1:250,000) 1 sheet—38 x 38 inches	0.50

MISCELLANEOUS PUBLICATIONS—U. S. Geological Survey

Order from U. S. Geological Survey at indicated cost

Geologic map index of Pennsylvania , compiled by Leona Boardman. 1952. Scale 1:500,000, index showing areas covered by published geologic maps	0.60
*Interpreting maps for engineering purposes . 1953. 6 maps from Huntingdon-Hollidaysburg folio	*

SELECTED PUBLICATIONS

UNITED STATES BUREAU OF MINES

REPORTS OF INVESTIGATIONS—U. S. Bureau of Mines

Free from U. S. Bureau of Mines, 4800 Forbes Ave., Pittsburgh, Pa. 15213

*3385 Analyses of crude oils from some fields of Pennsylvania and New York , by E. C. Lane and E. L. Garton. 1938. 68 p.	*
---	---

* Out-of-print.

*4145	Investigation of the Dillsburg magnetite deposits, York County, Pa., by C. L. Neumann. 1947. 13 p., 3 figs.	*
*4180	Correll zinc mine, Lehigh County, Pa., by C. B. White and J. E. Bell. 1948. 8 p., 2 figs.	*
*4247	Bamford zinc mine, Lancaster County, Pa., by McHenry Mosier. 1948. 3 p., 2 figs.	*
4312	Investigation of Simon & Coles manganese deposit, Bedford County, Pa., by W. H. Kerns and R. S. Sanford. 1948. 6 p., 2 figs.	free
*4326	Investigation of Critchfield manganese deposit, Huntingdon County, Pa., by W. H. Kerns and R. S. Sanford. 1948. 7 p., 2 figs.	*
*4383	Investigation of Wood chromite mine area, Lancaster County, Pa., by F. K. McIntosh and McHenry Mosier. 1948. 5 p., 3 figs.	*
4422	Investigation of the Albright Farm lead-zinc deposit, Blair County, Pa., by D. F. Reed. 1949. 7 p., 3 figs.	free
*4427	Investigation of certain high-alumina clays of central Pennsylvania, by R. S. Sanford. 1949. 12 p., 4 figs.	*
*4436	Investigation of Boiling Springs manganese-iron deposit, Cumberland County, Pa., by S. E. Burton and R. S. Sanford. 1949. 20 p., 5 figs.	*
*4451	Investigation of Pickering Creek lead-zinc deposits of Chester County, Pa., by D. F. Reed. 1949. 11 p., 2 figs.	*
*4530	Investigation of the Benjamin Franklin graphite mine and the Just graphite mine, Chester County, Pa. 1949. 17 p., 3 figs.	*
*4666	Investigation of Perkiomen Creek copper deposits, Montgomery County, Pa., by K. M. Earl. 1950. 13 p., 3 figs.	*
*4703	Investigation of New Galena lead deposit, Bucks County, Pa., by K. M. Earl. 1950. 7 p., 2 figs.	*
4734	Estimate of known recoverable reserves of coking coal in Cambria County, Pa., by J. J. Dowd et al. 1950. 25 p., 6 figs.	free
*4743	Investigation of the Almedia lead-zinc deposit, Columbia County, Pa., by Kenneth M. Earl. 1950. 9 p., 3 figs.	*
*4747	Preparation characteristics of coal from Cambria County, Pa., by W. L. Crentz and Fern Steele. 1950. 40 p., 19 figs.	*
4757	Estimate of known recoverable reserves of coking coal in Indiana County, Pa., by J. J. Dowd, et al. 1951. 22 p., 5 figs.	free
*4763	Preparation characteristics of coal from Indiana County, Pa., by W. L. Crentz, et al. 1951. 22 p., 15 figs.	*
*4788	Preparation characteristics of coal occurrences in Armstrong County, Pa., by William L. Crentz et al. 1951. 25 p., 17 figs.	*
4801	Estimate of known recoverable reserves of coking coal in Armstrong County, Pa., by J. J. Dowd et al. 1951. 19 p., 5 figs.	free
4803	Estimate of known recoverable reserves of coking coal in Westmoreland County, Pa., by J. J. Dowd et al. 1951. 16 p., 4 figs.	free
4807	Estimate of known recoverable reserves of coking coal in Fayette County, Pa., by J. J. Dowd et al. 1951. 19 p., 5 figs.	free
*4815	Preparation characteristics of coal from Fayette County, Pa., by William L. Crentz et al. 1951. 16 p., 37 figs.	*
*4823	Preparation characteristics of coal occurring in Westmoreland County, Pa., by William L. Crentz et al. 1951. 17 p., 17 figs.	*
*4834	Preparation characteristics of coal from Somerset County, Pa., by W. L. Crentz et al. 1951. 22 p., 15 figs.	*
*4840	Estimate of known recoverable reserves of coking coal in Jefferson County, Pa., by J. J. Dowd et al. 1952. 18 p., 5 figs.	*
4842	Effects of water flooding on reservoir temperatures and wax precipitation in the Bradford, Pa., oil field, by A. T. Sayre, Jr. and W. T. Wertman. 1952. 34 p.	free
4894	Preparation characteristics of coal from Clearfield County, Pa., by W. L. Crentz et al. 1951. 27 p., 36 figs.	free
*4941	Preparation characteristics of coal from Jefferson County, Pa., by W. L. Crentz and S. W. Miller. 1953. 21 p.	*
4998	Estimate of known recoverable reserves of coking coal in Somerset County, Pa., by J. J. Wallace et al. 1953. 20 p.	free
5003	Estimate of known recoverable reserves of coking coal in Allegheny County, Pa., by J. J. Dowd et al. 1953. 16 p., 6 figs.	free

* Out-of-print.

5101	Carbonizing properties of Armstrong County, Pa. coals , by F. W. Smith et al. 1954. 20 p., 10 figs.	free
5109	Estimate of known recoverable reserves of coking coal in Washington County, Pa. , by J. J. Dowd et al. 1955. 23 p., 16 figs.	free
5143	Estimate of known recoverable reserves of coking coal in Greene County, Pa. , by J. J. Wallace et al. 1955. 22 p., 4 figs.	free
5165	Smelting iron ore with anthracite, bureau of mines experimental blast furnace , by R. C. Buehl and M. B. Royer. 1955. 15 p.	free
5166	Estimate of known recoverable reserves of coking coal in Clearfield County, Pa. , by D. W. Blaylock et al. 1955. 36 p., 7 figs.	free
5176	Effects of anthracite expansion of coking coals , by J. B. Gayle and W. H. Eddy. 1955. 18 p.	free
5231	Estimate of known recoverable reserves of coking coal in Clarion County, Pa. , by D. W. Blaylock et al. 1956. 27 p.	free
5269	Carbonizing properties of Somerset County, Pa., coals , by D. E. Wolfson et al. 1956. 19 p.	free
5314	Carbonizing properties of Indiana County, Pa., coals , by D. E. Wolfson et al. 1957. 18 p.	free
5374	Carbonizing properties of Westmoreland County, Pa., coals , by G. W. Birge and D. E. Wolfson. 1957. 12 p. .	free
5455	Carbonizing properties of Allegheny County, Pa., coals , by D. E. Wolfson and G. W. Birge. 1959. 16 p.	free
5475	Preparation characteristics of coal from Washington County, Pa. , by T. E. Gray and E. R. Palowitch. 1959. 27 p.	free
5492	Preparation characteristics of coal from Allegheny County, Pa. , by T. E. Gray and E. R. Palowitch. 1959. 34 p. .	free
5927	Carbonizing properties of Butler County, Pennsylvania coal , by G. W. Birge and D. E. Wolfson. 1962. 12 p., 3 figs.	free
6261	Carbonizing properties of coals from Elk, Clarion, Clearfield, and Centre Counties, Pennsylvania , by G. W. Birge and others. 1963. 22 p., 3 figs.	free

TECHNICAL PAPERS—U. S. Bureau of Mines

Order from the Superintendent of Documents, U. S. Gov't Printing Office, Washington, D. C. 20402, at indicated cost

590	Analyses of Pennsylvania bituminous coals. 1939. 509 p., 5 figs.	0.50
645	Analyses of Pennsylvania bituminous coals. 1942. Supplement to T. P. 590. 19 p.	0.10
659	Analyses of Pennsylvania anthracite coals. 1944. 271 p., 10 figs.	0.40

BULLETINS—U. S. Bureau of Mines

Order from the Superintendent of Documents, U. S. Gov't Printing Office, Washington, D. C. 20402, at indicated cost

*195	Pennsylvania mining statutes, annotated , by J. W. Thompson. 1920. 1221 p.	*
465	Production of metallurgical alumina from Pennsylvania nodular diaspore clays , by J. E. Conley et al. 1947. 193 p., 68 figs.	0.35
491	Inundated anthracite reserves, Eastern Middle field of Pennsylvania , by S. H. Ash et al. 1950. 28 p., 14 figs. .	0.15
494	Buried Valley of the Susquehanna River: Anthracite region of Pennsylvania , by S. H. Ash. 1950. 27 p., 35 figs.	7.50

MINERALS YEARBOOK—U. S. Bureau of Mines

Order from the Superintendent of Documents, U. S. Gov't Printing Office, Washington, D. C. 20402, at indicated cost

Minerals yearbook. An annual publication which gives an economic and statistical summary of the mineral industries of the United States. 1000 to 1500 pages †
 Since 1952 in 3 vols. Area Reports, Metals and Minerals, and Fuels. 2000 to 2500 p.

† Price variable with each issue.

* Out-of-print.

